



U.S. Department of the Interior  
Bureau of Land Management  
Royal Gorge Field Office, Rocky Mountain District  
Cañon City, Colorado



U.S. Department of Agriculture  
U.S. Forest Service  
Pike and San Isabel National Forests  
Salida, Colorado

# Browns Canyon National Monument

Draft Resource Management Plan / Environmental Impact Statement

Volume 2: Appendices

October 2019





### **BLM Mission**

It is the mission of the Bureau of Land Management to sustain health, diversity, and productivity of the public lands for use and enjoyment of present and future generations

### **USFS Mission**

The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations

**BLM/CO/PL-20-001**

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# **Browns Canyon National Monument Resource Management Plan and Environmental Impact Statement**

**DRAFT**

## **Volume 2 of 2 Appendices**

**Prepared by**

**U.S. Department of the Interior  
Bureau of Land Management  
Royal Gorge Field Office  
Cañon City, Colorado**

**and**

**U.S. Department of Agriculture  
U.S. Forest Service  
Pike and San Isabel National Forests and  
Cimarron and Comanche National Grasslands  
Salida, Colorado**

**October 2019**

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## Appendix B. Glossary

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**Adaptive management.** A type of natural resource management in which decisions are made as part of an ongoing science-based process. Adaptive management involves testing, monitoring, and evaluating applied strategies, and incorporating new knowledge into management approaches that are based on scientific findings and the needs of society. Results are used to modify management policy, strategies, and practices.

**Administrative access.** Administrative access pertains to travel on routes that are limited to authorized users (typically motorized access). These are existing routes that lead to developments that have an administrative purpose, where the Bureau of Land Management (BLM), U.S. Forest Service (USFS), or a permitted user must have access for regular maintenance or operation.

**Allotment.** An area of land in which one or more livestock operators graze their livestock. Allotments generally consists of BLM or USFS lands but may include other federally managed, state-owned, and private lands. An allotment may include or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

**Allotment Management Category.** Each permitted BLM allotment has been evaluated and designated into one of three categories: maintain (M), improve (I), or custodial (C).

- *Maintain.* Allotments in the M Category are in generally good condition and have no serious resource conflicts under present management. These may have some potential for a positive return on investments.
- *Improve.* I Category allotments may have serious resource conflicts, or their resource production is below its potential under present management. These allotments have potential to improve, or have conflicts, that can be resolved through changes in livestock grazing management or investments in range improvement projects.
- *Custodial.* Allotments in the C Category have low productivity potential, limited resource conflicts, and no opportunity for a positive return on public investments.

**Animal Unit Month (AUM).** The amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month.

**Area of Critical Environmental Concern (ACEC).** Special area designation established through the BLM's land use planning process (43 Code of Federal Regulations [CFR] 1610.7-2), where special management attention is needed to protect and prevent irreparable damage to important historical, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. The level of allowable use within an area of critical environmental concern is established through the collaborative planning process. Designation of an area of critical environmental concern allows for resource use limitations in order to protect identified resources or values.

**Best Available Scientific Information (BASI).** Disclosure of the most relevant, accurate, and reliable data that was considered to insure that science was appropriately interpreted and applied in the development of the Resource Management Plan (RMP). Under the 2012 USFS Planning Rule, the BASI must inform the planning process. The rule requires that the responsible official document how BASI was determined to be accurate, reliable, and relevant to the issues being

considered. (Forest Service Handbook (FSH) 1909.12 - Land Management Planning Handbook; Chapter 40 – Key Processes Supporting Land Management Planning).

**Best Management Practices (BMPs).** A suite of techniques that guide or may be applied to management actions to aide in achieving desired outcomes. BMPs are not considered a planning decision.

**Candidate Species.** Candidate species are plants and animals for which there is sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

**Cooperating Agency.** Assists the lead Federal agency in developing an environmental assessment or environmental impact statement. These can be any agency with jurisdiction by law or special expertise for proposals covered by National Environmental Policy Act (NEPA; 40 CFR 1501.6). Any Tribal or Federal, State, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

**Council on Environmental Quality (CEQ).** An advisory council to the President of the United States established by NEPA. It reviews Federal programs to analyze and interpret environmental trends and information.

**Cultural Resource.** A definite location of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence. Cultural resources are archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit, without regard to eligibility for listing on the National Register of Historic Places.

**Cumulative Effects.** The direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action.

**Desired Future Condition/Goals.** A broad statement of desired outcomes addressing resource, environmental, social, or economic characteristics within a planning area, or a portion of the planning area, toward which management of resources should be directed. Typically they do not vary by alternative. They describe the aspirations or visions for how the planning area (or a portion of the planning area) should be managed and drive the development of the other plan components. They identify the desired condition of resources in the future and the other plan components give more specific guidance on how to achieve those desired conditions.

**Direct Impacts.** Direct impacts are caused by an action or implementation of an alternative and occur at the same time and place.

**Eligible River.** A river or river segment found to meet criteria found in sections 1(b) and 2(b) of the Wild and Scenic Rivers Act (16 U.S.C. 1271, 1273[b]) of being free flowing and possessing one or more outstandingly remarkable value (BLM Manual 6400, Wild and Scenic Rivers).

**Endangered Species.** Any species that is in danger of extinction throughout all or a significant portion of its range (BLM Manual 6840, Special Status Species). The U.S. Fish and Wildlife

Service oversees the protection and recovery of imperiled species and the ecosystems upon which they depend per the Endangered Species Act 1973.

**Environmental Assessment.** A concise public document prepared to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. It includes a brief discussion of the need for the proposal, alternatives considered, environmental impact of the proposed action and alternatives, and a list of agencies and individuals consulted.

**Environmental Impact Statement (EIS).** A detailed statement prepared by the responsible official in which a major Federal action that significantly affects the quality of the human environment is described, alternatives to the proposed action are provided, and effects are analyzed.

**Exclusion Area.** An area on the public lands where a certain activity or activities are prohibited to ensure protection of other resource values present on the site. In the Browns Canyon National Monument (BCNM) RMP, this term is primarily used in reference to lands and realty actions and proposals (e.g., rights-of-way) and renewable energy development. This restriction is functionally analogous to the phrase "no surface occupancy" used by the oil and gas program, and is applied as an absolute condition to those affected activities. The less restrictive analogous term is avoidance area. Also see "*right-of-way exclusion area*" definition.

**Federal Land Policy and Management Act of 1976 (FLPMA).** Public Law 94-579, October 21, 1976, often referred to as the BLM's "Organic Act," which provides most of the BLM's legislated authority, direction policy, and basic management guidance.

**Geographic Information System (GIS).** A system of computer hardware, software, data, people, and applications that capture, store, edit, analyze, and display a potentially wide array of geospatial information.

**Goal.** *See Desired Future Condition*

**Historic Property.** Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. The term includes artifacts, records, and remains that are related to and located within such properties.

**IMPLAN.** An input-output model often used to examine the economic impact of alternative policies or changes in the local economy.

**Indirect Impacts.** Indirect impacts result from implementing an action or alternative, but usually occur later in time or are removed in distance and are reasonably certain to occur.

**Invasive Plant.** Invasive plants include not only noxious weeds, but also other plants that are not native to this country or to the area where they are growing. The BLM considers plants invasive if they have been introduced into an environment where they did not evolve. The USFS considers plants invasive if they are non-native-or alien to the ecosystem under consideration and whose introduction causes or is likely to cause environmental harm or harm to human health.

**Land Use Allocation.** The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions (BLM Handbook 1601-1, Land Use Planning).

**Land Use Plan.** A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land use plan level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. The term includes both RMPs and management framework plans (BLM Handbook H-1601-1, Land Use Planning).

**Management Zone (MZ).** Management zones provide a management tool to achieve identified settings for a specific geographic location.

**Mineral.** Any naturally formed inorganic material, solid or fluid inorganic substance that can be extracted from the earth, any of various naturally occurring homogeneous substances (as stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained usually from the ground, under Federal laws considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), and salable (subject to the Materials Act of 1947).

**Mining Claim.** A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. There are four categories of mining claims: lode, placer, millsite, and tunnel site.

**Mitigation.** Includes specific means, measures, or practices that could reduce, avoid, or eliminate adverse impacts. Mitigation can include avoiding the impact altogether by not taking a certain action or parts of an action, minimizing the impact by limiting the degree of magnitude of the action and its implementation, rectifying the impact by repairing, rehabilitating, or restoring the affected environment, reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and compensating for the impact by replacing or providing substitute resources or environments.

**Multiple-use.** The management of the public lands and their various resource values so that they are used in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output (FLPMA) (BLM Manual 6840, Special Status Species). The policy and purpose of the National Forests to provide for multiple-use and sustained yield of products and services per The Multiple Use Sustained Yield Act of 1960.

**National Environmental Policy Act of 1969 (NEPA).** Public Law 91-190. Establishes environmental policy for the nation. Among other items, NEPA requires Federal agencies to consider environmental values in decision-making processes.

**National Register of Historic Places (NRHP).** The NRHP, or National Register, expanded and maintained by the Secretary of the Interior, as authorized by section 2(b) of the Historic Sites Act and section 101(a)(1)(A) of the National Historic Preservation Act. The National Register lists



cultural properties found to qualify for inclusion because of their local, State, or national significance. Eligibility criteria and nomination procedures are found in 36 CFR Part 60. The Secretary's administrative responsibility for the National Register is delegated to the National Park Service.

**National Wild and Scenic Rivers System (NWSRS).** A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams: (1) recreation—rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past; (2) scenic—rivers or sections of rivers free of impoundments with shorelines or watersheds still largely undeveloped but accessible in places by roads; and (3) wild—rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with watersheds or shorelines essentially primitive and waters unpolluted.

**Native American Graves Protection and Repatriation Act (NAGPRA).** Describes the rights of Native American lineal descendants, Indian Tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation.

**Non-native Plant (Weed).** A plant introduced with human help (intentionally or accidentally) to a new place or new type of habitat where it was not previously found.

**Noxious Weed.** A noxious weed is any plant designated by a Federal, State, or county government as injurious to public health, agriculture, recreation, wildlife, or property. A noxious weed is also commonly defined as a plant that grows out of place and is competitive, persistent, and pernicious.

**Objectives.** Specific desired outcomes for resources. To the extent feasible, objectives are quantifiable and measurable and may have established time frames for achievement.

**Off-highway Vehicle (OHV).** Any motorized vehicle capable of, or designated for travel on or immediately over land, water or other natural terrain, excluding: (1) any non-amphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used for national defense.

**Off-highway Vehicle (OHV) Area Designations.** Lands are designated as Open, Limited, or Closed for OHV use.

- *Open.* Designated areas where all types of motorized vehicles (jeeps, all-terrain vehicles, motorized dirt bikes, etc.) are permitted at all times, anywhere in the area, on roads or cross country, subject to the operating regulations and vehicle standards set forth in 43 CFR subparts 8341 and 8342.
- *Limited.* Designated areas where motorized vehicles are restricted to designated routes. Off-road, cross-country travel is prohibited in Limited areas, unless an area is specifically

identified as an area where cross-country over-snow travel is allowed. Some existing routes may be closed in Limited areas.

- *Closed.* Designated areas where off-road motorized vehicle travel is prohibited yearlong. Emergency use of vehicles is allowed yearlong.

**Outstandingly Remarkable Values (ORVs).** Values among those listed in section 1(b) of the Wild and Scenic Rivers Act of 1968: “scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values....” Other similar values that may be considered include ecological, biological, or botanical.

**Paleontological Resources.** The physical remains or other physical evidence of plants and animals preserved in soils and sedimentary rock formations. Paleontological resources are important for correlating and dating rock strata and for understanding past environments, environmental change, and the evolution of life.

**Perennial Stream.** A stream that flows continuously. Perennial streams are generally associated with a water table in the localities through which they flow.

**Permittee.** A person or company who has received a special use permit to conduct outfitter guide activities, host an event, or graze livestock on public land.

**Proper functioning condition (PFC).** A term describing stream health that is based on the presence of adequate vegetation, landform, and debris to dissipate energy, reduce erosion, and improve water quality. A lotic riparian area is considered to be in proper functioning condition, or “functioning properly,” when adequate vegetation, landform, or woody material is present to:

- Dissipate stream energy associated with high water flow, thereby reducing erosion and improving water quality.
- Capture sediment and aid floodplain development.
- Improve floodwater retention and groundwater recharge.
- Develop root masses that stabilize streambanks against erosion.
- Maintain channel characteristics (Dickard et al. 2015).

**Proposed Species.** Proposed species for listing under the Endangered Species Act are those candidate species that were found to warrant listing as either threatened or endangered, after completion of a status review and consideration of other protective conservation measures.

**Public Land.** Land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM or Secretary of Agriculture through the USFS without regard to how the United States acquired ownership, except lands located on the Outer Continental Shelf and land held for the benefit of Indians, Aleuts, and Eskimos (BLM Handbook H-1601-1, Land Use Planning).

**Resource Management Plan (RMP).** A land use plan as prescribed by FLPMA that establishes, for a given area of land, land-use allocations, coordination guidelines for multiple-use, objectives, and actions to be achieved.

**Right-of-way (ROW).** Public lands authorized to be used or occupied for specific purposes pursuant to a right-of-way grant, which are in the public interest and which require ROWs over, on, under, or through such lands.

**Right-of-way avoidance area.** An area identified through resource management planning to be avoided, but may be available for ROW location with special stipulations.

**Right-of-way exclusion area.** An area identified through resource management planning that is not available for ROW location under any conditions.

**Riparian Area.** A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

**Roadless Area.** A USFS undeveloped area typically exceeding 5,000 acres that met the minimum criteria for wilderness consideration under the Wilderness Act and that were inventoried during the USFS's Roadless Area Review and Evaluation (RARE II) process, subsequent assessments, or forest planning.

**Scenery Management System (SMS).** A USFS system of analysis to address the amount of visible impact created by man-made activities on National Forest System lands.

**Scoping.** An early and open public participation process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

**Special recreation permit (SRP).** Authorization that allows for recreational uses of public lands and related waters. Issued as a means to control visitor use, protect recreational and natural resources, and provide for the health and safety of visitors. Commercial SRPs are also issued as a mechanism to provide a fair return for the commercial use of public lands.

**Special status species.** Collectively, federally listed or proposed and BLM and USFS sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting. See also "U.S. Forest Service Sensitive Species" and "Species of Conservation Concern."

**Species of Conservation Concern (SCC).** Species, other than federally recognized threatened, endangered, proposed, or candidate species, that are known to occur in the plan area [National Forest System lands within the congressionally designated boundary] and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area" (Forest Service Manual [FSM] 1909.12.52). These species are native to and are known to occur in the plan area.

**Suppression.** All the work of extinguishing a fire or confining fire spread.

**Surface-disturbing activities (or surface disturbance).** Greater than casual use actions created through mechanized or motorized means that would cause soil mixing and result in alteration or removal of soil and vegetation, exposing the mineral soil to erosive processes to the extent that reclamation may be required. These actions may include the use of mechanized earth-moving equipment; self-propelled drilling equipment; certain geophysical exploration; placement of surface facilities such as utilities, pipelines, structures, and oil and gas wells; new road construction; and use of pyrotechnics or explosives. Surface-disturbing activities do not include livestock grazing; low-impact vegetation tools (e.g., mastication and hand thinning) and associated short term infrastructure; cross-country hiking; driving on and maintaining existing

roads, primitive roads, and limited administrative vehicle travel off routes in areas designated as limited to off-highway vehicle use; scientific excavation; cultural resource inventories, restoration, and/or mitigation of limited scope approved by the Field Office Manager.

**Threatened Species.** Any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range BLM Manual 6840, Special Status Species Management). The U.S. Fish and Wildlife Service oversees the protection and recovery of imperiled species and the ecosystems upon which they depend per the Endangered Species Act 1973.

**Traditional Cultural Property.** A property that derives significance from traditional values associated with it by a social or cultural group, such as an Indian Tribe or local community. A traditional cultural property may qualify for the National Register of Historic Places if it meets the criteria and criteria exceptions at 36 CFR 60.4. See National Register Bulletin 38.

**Traditional Use.** Longstanding, socially conveyed, customary patterns of thought, cultural expression, and behavior, such as religious beliefs and practices, social customs, and land or resource uses. Traditions are shared generally within a social and/or cultural group and span generations.

**U.S. Forest Service Sensitive Species.** Plants and animals identified by the Regional Forester for which population viability is a concern. Concern is warranted by a downward trend in population numbers, density, or habitat conditions that would reduce a species' existing distribution (FSM 2670.5). Sensitive species are managed so that USFS actions ensure that these species do not become threatened or endangered (FSM 2670.22). See also "Special Status Species" and "Species of Conservation Concern (SCC)." Under the 2012 USFS planning rule, the term "Sensitive Species" is replaced by "Species of Conservation Concern."

**Utility Corridor.** Tract of land varying in width forming passageway through which various commodities such as oil, gas, and electricity are transported.

**Valid existing rights.** Documented, legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include but are not limited to fee title ownership, mineral rights, right-of-way, easements, permits (excluding permits for grazing), and licenses. Such rights may have been reserved, acquired, leased, granted, permitted, or otherwise authorized over time.

**Vegetation Treatments (as used for wildland fire and fuel management).** Management practices which change the vegetation structure to a different stage of development. Vegetation treatment methods include:

- *Biological:* including insects or grazing by allowable livestock to reduce biomass.
- *Chemical:* application of chemicals to control vegetation that can lead to unwanted wildfire potential.
- *Manual:* hand thinning, and hand piling.
- *Mechanical:* includes mastication, mowing, weed whacking, chopping, chipping, and cutting; mastication, mowing, weed whacking, chopping, chipping, cutting, logging, skidding (activities associated with commercial timber operations), improving control feature effectiveness (e.g., shaded fuel breaks along roads), and improving point protection around values at risk.

- *Prescribed fire*: including broadcast burning, activity slash pile burning, aspect burning, and jackpot burning.

**Visual Resource Management (VRM).** The inventory and planning actions taken to identify visual resource values and to establish objectives for managing those values, and the management actions taken to achieve the visual resource management objectives.

**Wild and Scenic Study River.** Rivers identified in section 5 of the Wild and Scenic Rivers Act of 1968 for study as potential additions to the National Wild and Scenic Rivers System (NWSRS). The rivers will be studied under the provisions of section 4 of the act (BLM Manual 8351, Wild and Scenic Rivers – Policy and Program Direction for Identification, Evaluation, and Management).

**Wilderness.** A congressionally designated area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, that is protected and managed to preserve its natural conditions and that (1) generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value. The definition contained in section 2(c) of the Wilderness Act of 1964 (78 Stat. 891) (BLM Handbook H-6310-1, Wilderness Inventory and Study Procedures).

**Wilderness Characteristics.** Wilderness characteristics include size, the appearance of naturalness, outstanding opportunities for solitude, or a primitive and unconfined type of recreation. They may also include ecological, geological, or other features of scientific, educational, scenic, or historical value. However section 2(c) of the Wilderness Act of 1964 has been updated by Instruction Memorandum 2003-195, dated June 20, 2003. Indicators of an area's naturalness include the extent of landscape modifications, the presence of native vegetation communities, and the connectivity of habitats. Outstanding opportunities for solitude or primitive and unconfined types of recreation may be experienced when the sights, sounds, and evidence of other people are rare or infrequent, in locations where visitors can be isolated, alone or secluded from others, where the use of the area is through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered.

**Wilderness Study Area (WSA).** A designation made through the land use planning process of a roadless area found to have wilderness characteristics, as described in section 2(c) of the Wilderness Act of 1964 (BLM Handbook H-6310-1, Wilderness Inventory and Study Procedures).

**Wildfire.** Unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires (USDA and BLM 2009).

**Wildfire Suppression.** An appropriate management response to wildfire, escaped wildland fire use or prescribed fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire (National Wildfire Coordinating Group 2015).

**Wildland Fire.** Wildland fire is a general term describing any non-structure fire that occurs in the wildland. Wildland fires are categorized into two distinct types: a. Wildfires - Unplanned



ignitions or prescribed fires that are declared wildfires, b. Prescribed Fires - Planned ignitions (USDA and BLM 2009).

**Wildland Fire Use.** A vegetation treatment that involves taking advantage of a naturally ignited wildland fire in an area where fire would benefit resources.

**Withdrawal.** A Congressional or Secretarial action that restricts the use of public land and segregates the land from the operation of some or all of the public land and mineral laws. Withdrawals are also used to transfer jurisdiction of management of public lands to other Federal agencies.

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- wildland fire 7, 15, 22, 25, 61, 72, 77, 87, 88, 92, 93, 99, 100, 105, 111, 119
- withdrawal..... 4, 8, 16, 19, 74, 81, 86, 139
- Wilderness Study Area (WSA).. 1, 3, 4, 6, 7, 10, 14, 15, 25, 26, 36, 40, 41, 42, 51, 52, 53, 58, 62, 65, 68, 70, 71, 72, 74, 80, 81, 85, 92, 94, 96, 99, 102, 104, 129, 130, 133, 140

## **Appendix D. Maps**

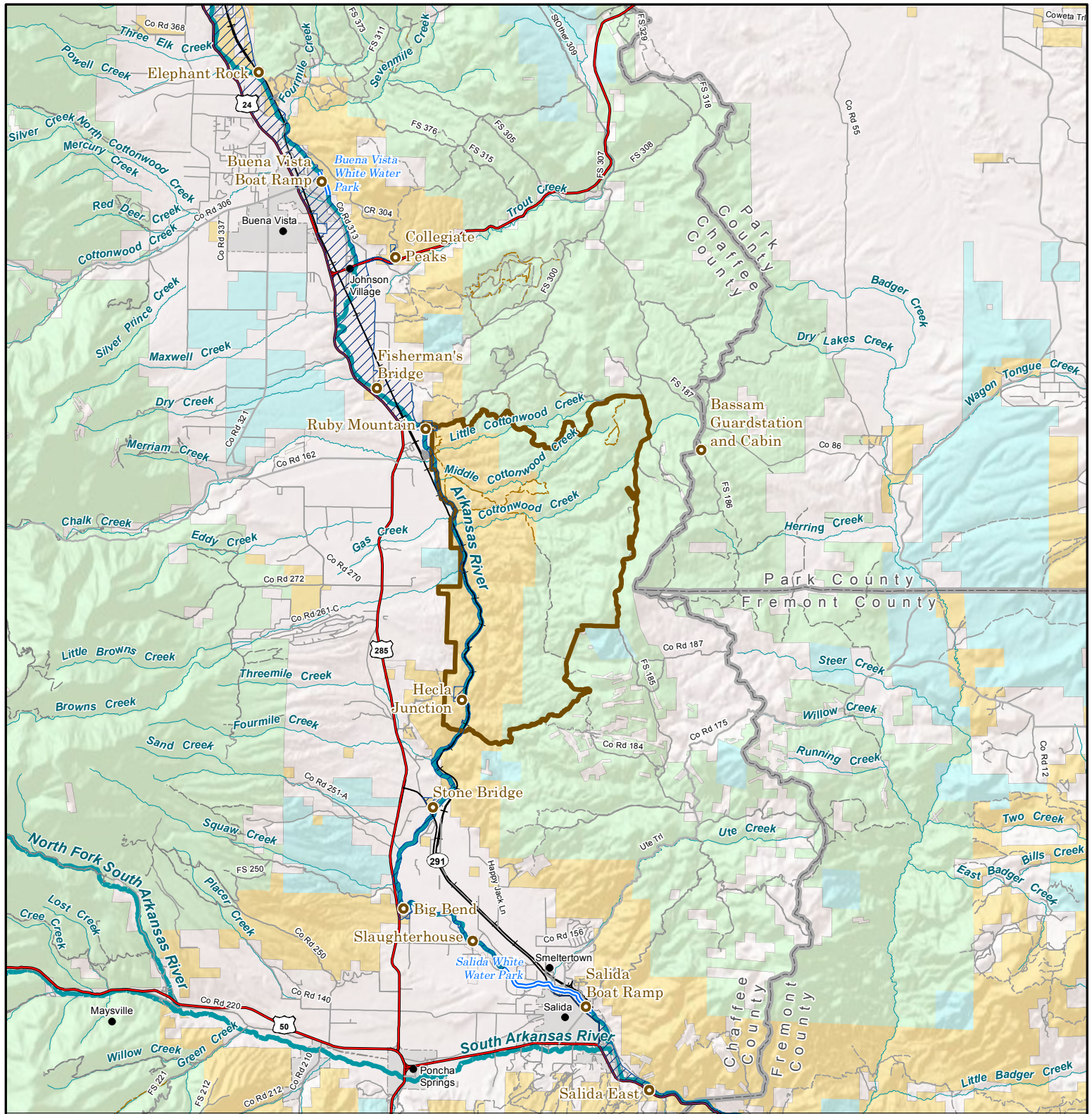
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### **MAP NUMBER AND NAME**

- Map 1. Arkansas River Valley Context Map
- Map 2. Planning Area
- Map 3. Areas of Critical Environmental Concern
- Map 4. Lands with Wilderness Characteristics Alternative B
- Map 5. USFS Management Areas
- Map 6. Visual Resources Alternative A
- Map 7. Visual Resources Alternative B
- Map 8. Visual Resources Alternative C
- Map 9. Waters within the National Monument Boundary
- Map 10. Big Game Concentration Areas
- Map 11. Recreation Alternative A
- Map 12. Recreation Alternative B
- Map 13. Recreation Alternative C
- Map 14. Recreational Target Shooting Alternative B
- Map 15. Recreational Target Shooting Alternative C
- Map 16. Travel Management Alternatives A, B and C
- Map 17. Cumulative Impact Analysis Area for Air Resources
- Map 18. Lands and Realty
- Map 19. Existing Vegetation
- Map 20. Sensitivity Level Rating Unit
- Map 21. Scenic Quality Rating Unit
- Map 22. Visual Distance Zones
- Map 23. Visual Resource Inventory
- Map 24. Canada Lynx and Mexican Spotted Owl Modeled Habitat
- Map 25. Livestock Grazing Allotments
- Map 26. Socioeconomics Study Area

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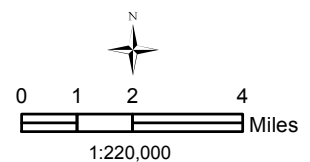




- Recreation Site
- Trail
- Motorized Route
- Whitewater Park
- ▨ Cooperative Management Lands
- ▭ Browns Canyon NM
- ▭ City Limits
- ▭ State
- ▭ Bureau of Land Management
- ▭ Private
- ▭ U.S. Forest Service

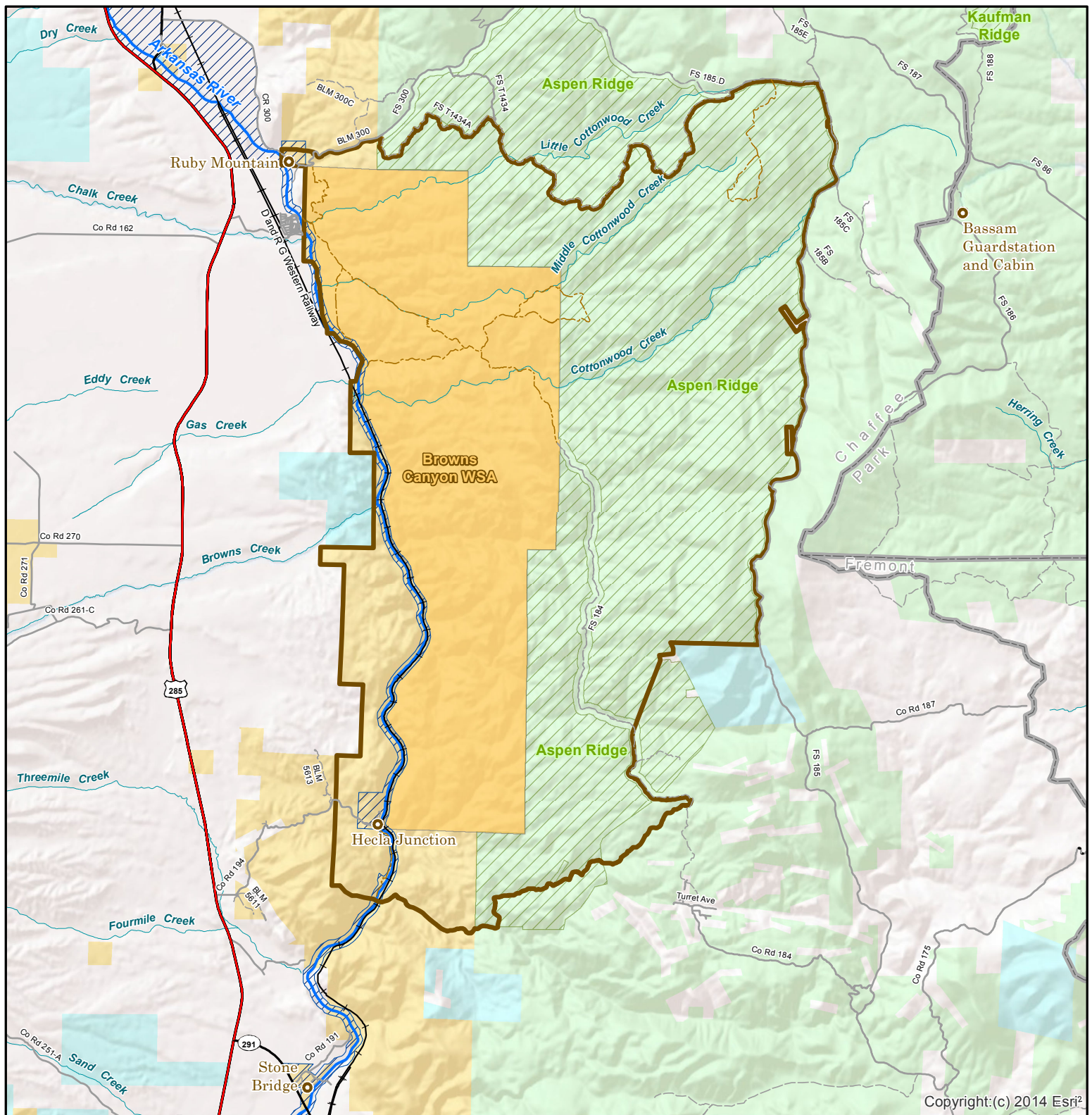


**Map 1 - Arkansas River Valley  
Context Map**



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.



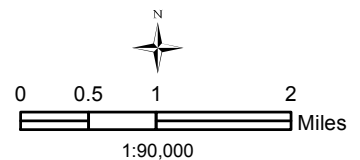


Copyright: (c) 2014 Esri<sup>2</sup>

- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM Planning and Decision Area
- Cooperative Management Lands
- Wilderness Study Area
- USFS Roadless Area
- State
- Bureau of Land Management
- Private
- U.S. Forest Service

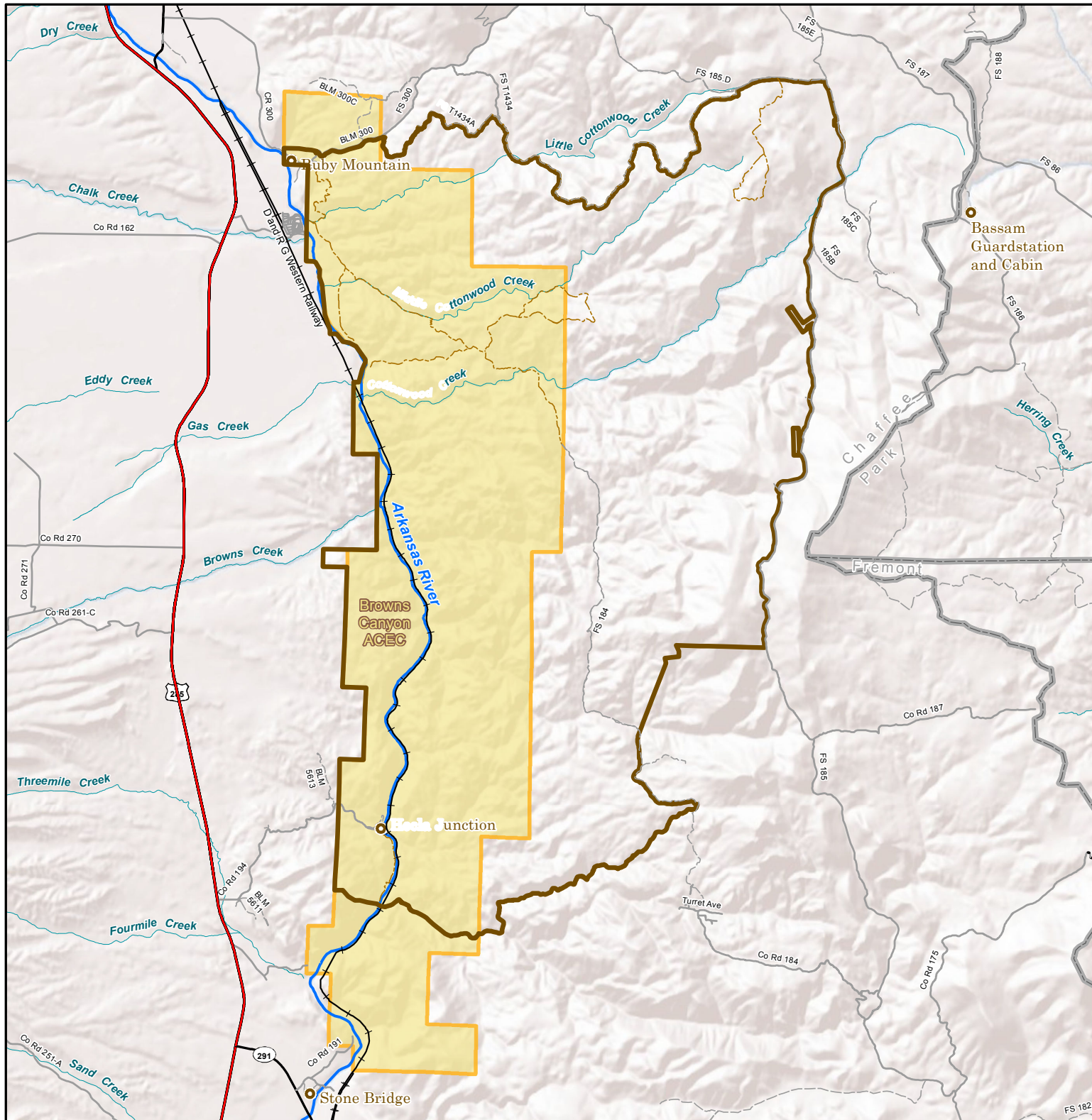


## Map 2 - Planning and Decision Area

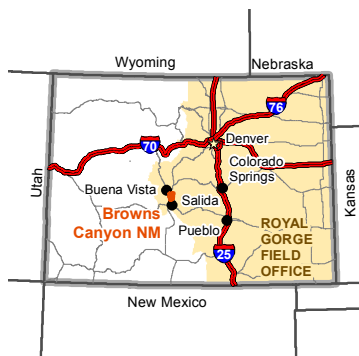


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

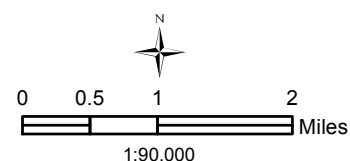




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Area of Critical Environmental Concern

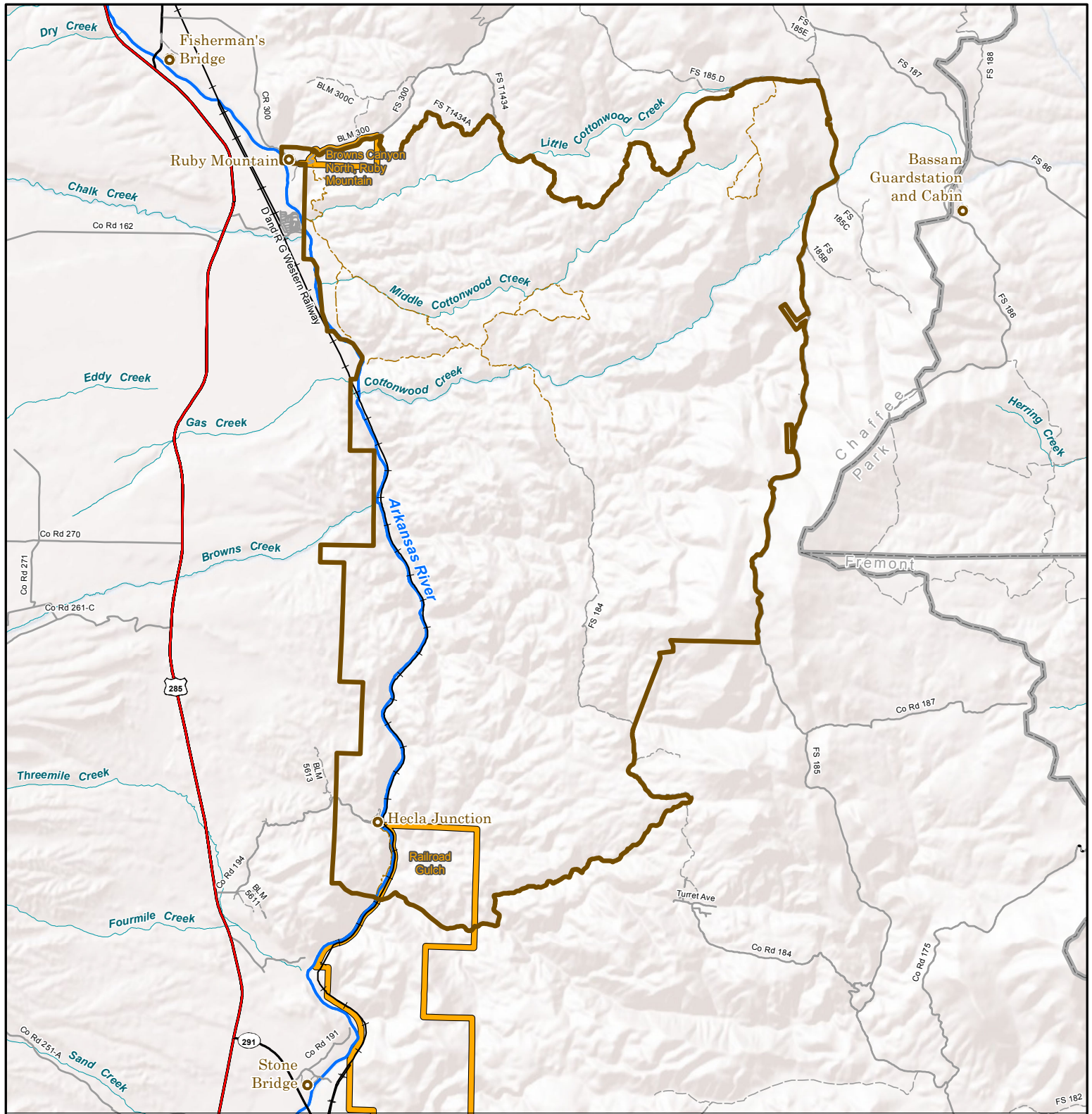


### Map 3 - Areas of Critical Environmental Concern

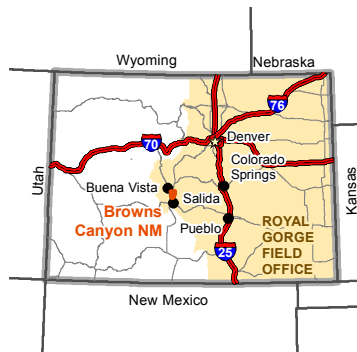


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

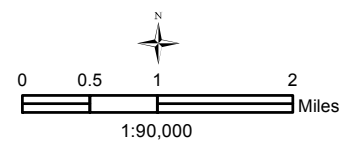




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Lands with Wilderness Characteristics

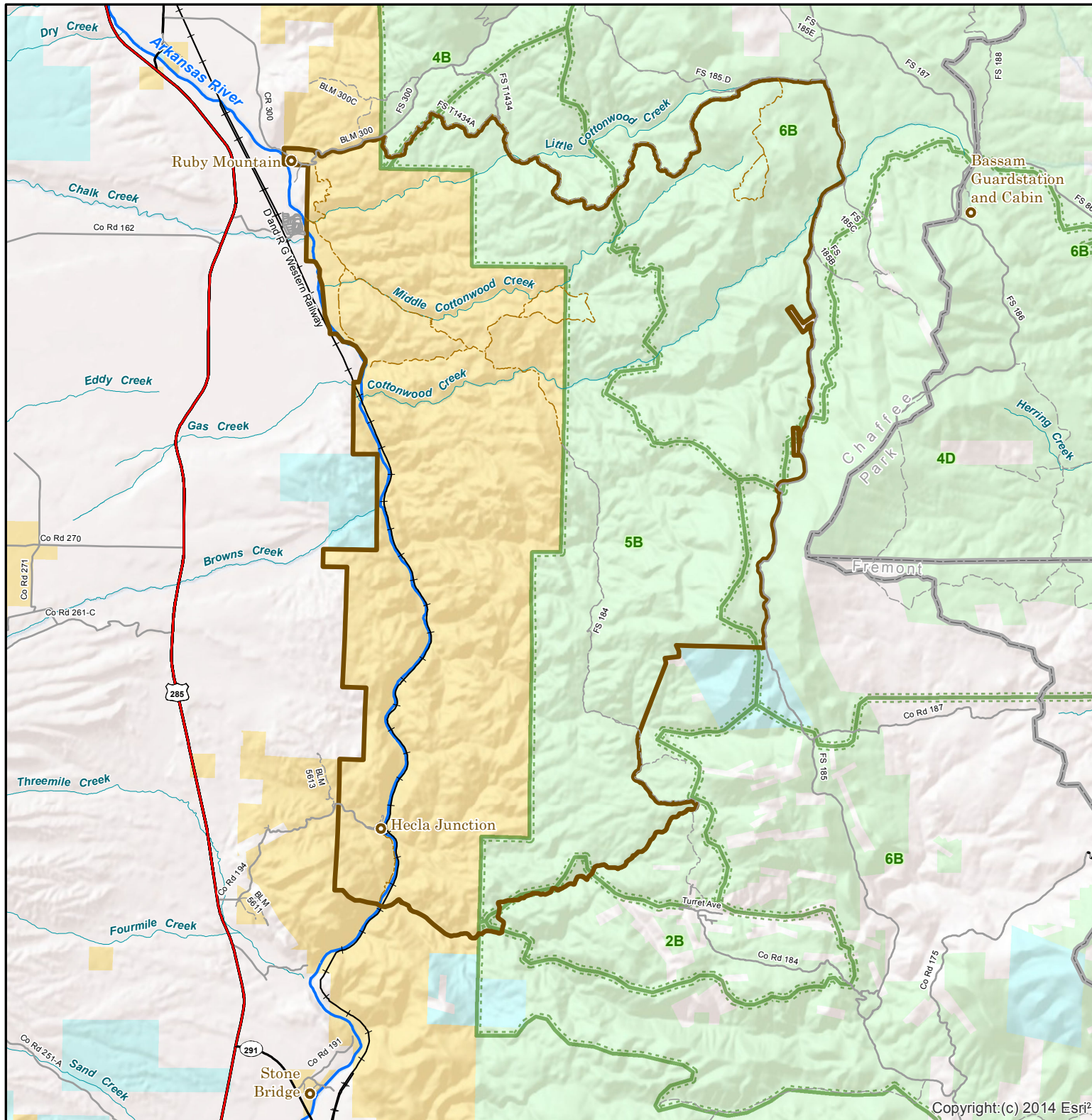


## Map 4 - Lands with Wilderness Characteristics Alternative B



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

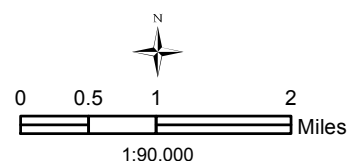




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM Planning Area
- USFS Management Area
- State
- Bureau of Land Management
- Private
- U.S. Forest Service

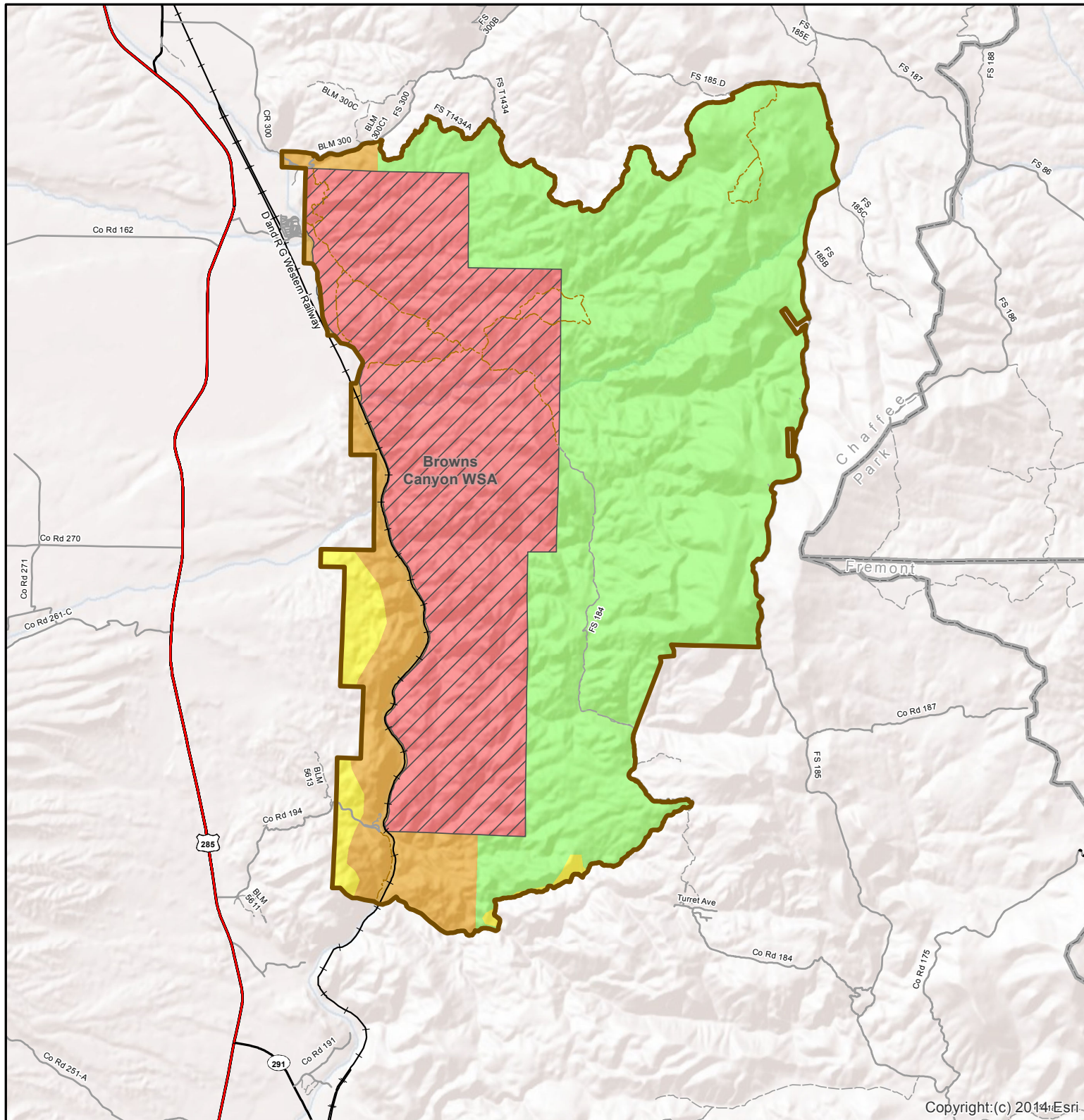


## Map 5 - USFS Management Areas



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.





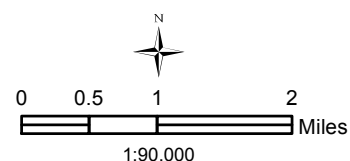
Copyright:(c) 2014 Esri

- System Trail
- Motorized Route
- Browns Canyon NM
- Wilderness Study Area

BLM VRM Class	USFS SIO Class
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ff9999; border: 1px solid black;"></span> I	<span style="display: inline-block; width: 15px; height: 15px; background-color: #ff9999; border: 1px solid black;"></span> Very High
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcc99; border: 1px solid black;"></span> II	<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcc99; border: 1px solid black;"></span> High
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffff99; border: 1px solid black;"></span> III	<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffff99; border: 1px solid black;"></span> Moderate
<span style="display: inline-block; width: 15px; height: 15px; background-color: #99ff99; border: 1px solid black;"></span> IV	<span style="display: inline-block; width: 15px; height: 15px; background-color: #99ff99; border: 1px solid black;"></span> Low

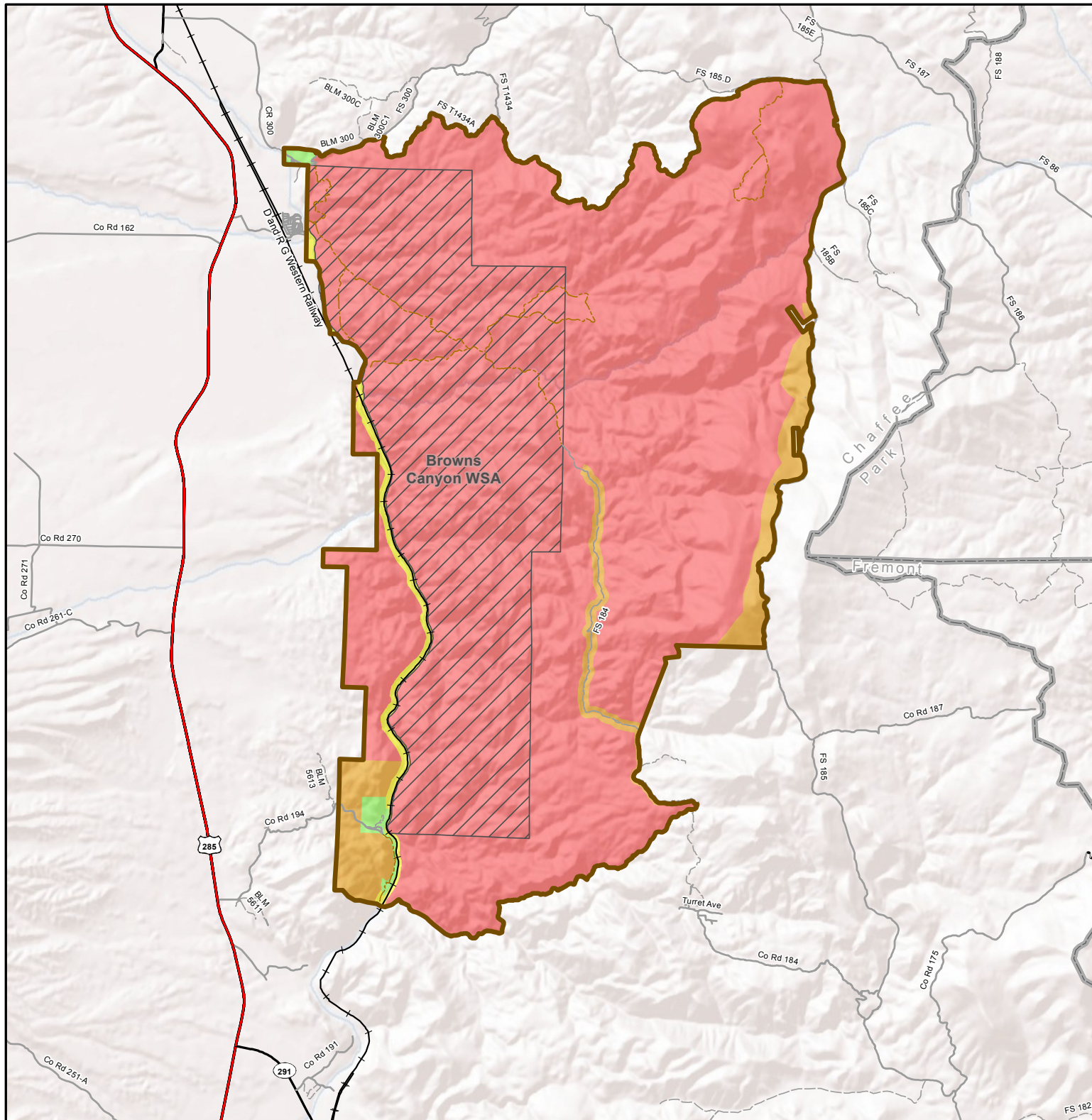


## Map 6 - Visual Resources Alternative A



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.



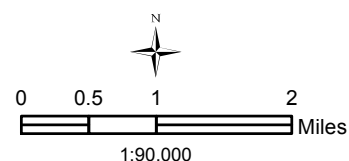


- System Trail
- Motorized Route
- Browns Canyon NM
- Wilderness Study Area

BLM VRM Class	USFS SIO Class
I	Very High
II	High
III	Moderate
IV	Low

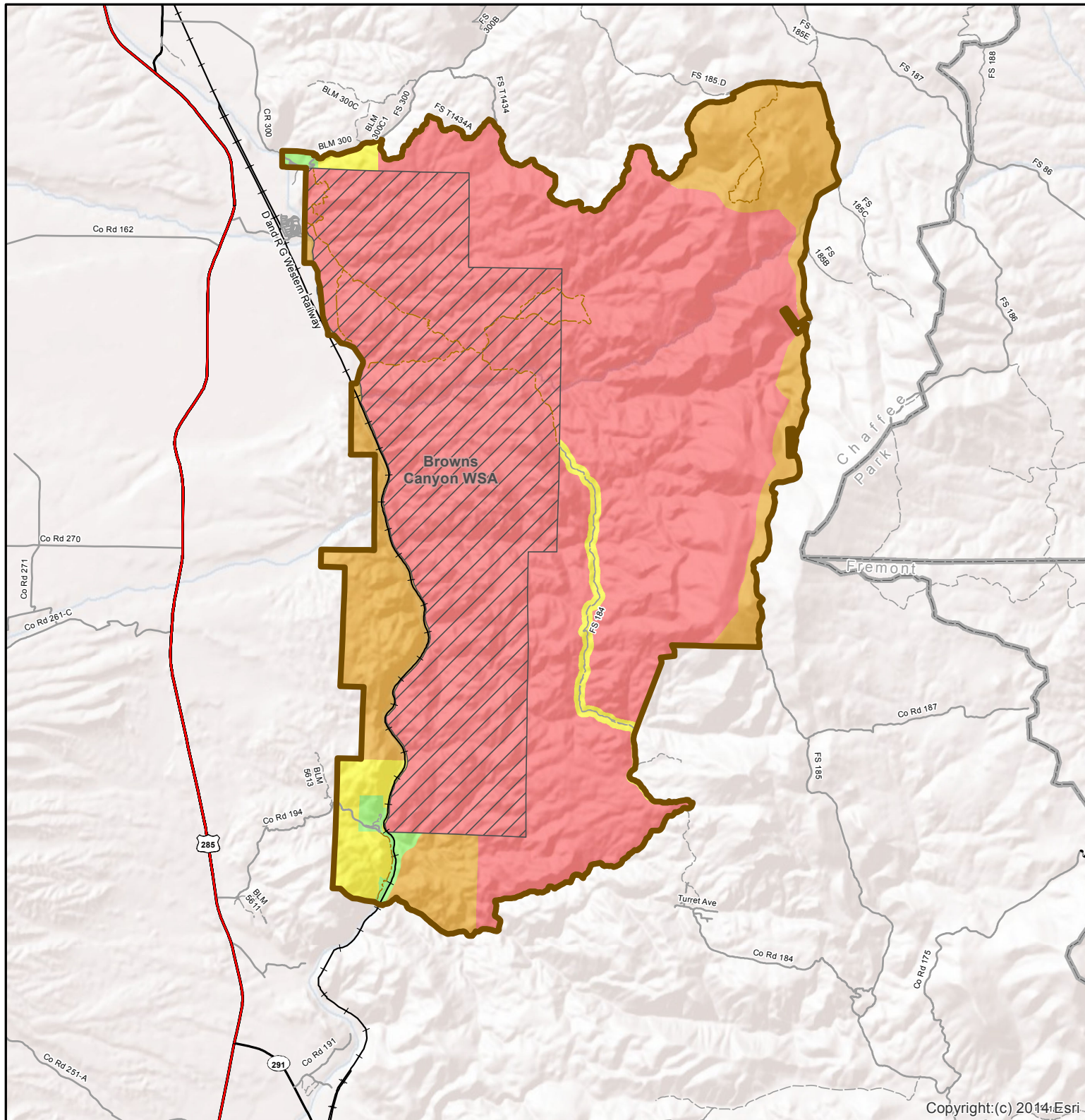


## Map 7 - Visual Resources Alternative B



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.





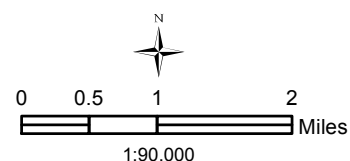
Copyright:(c) 2014 Esri

- System Trail
- Motorized Route
- Browns Canyon NM
- Wilderness Study Area

BLM VRM Class	USFS SIO Class
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcccc; border: 1px solid black;"></span> I	<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcccc; border: 1px solid black;"></span> Very High
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcc99; border: 1px solid black;"></span> II	<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcc99; border: 1px solid black;"></span> High
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcc66; border: 1px solid black;"></span> III	<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffcc66; border: 1px solid black;"></span> Moderate
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ccffcc; border: 1px solid black;"></span> IV	<span style="display: inline-block; width: 15px; height: 15px; background-color: #ccffcc; border: 1px solid black;"></span> Low

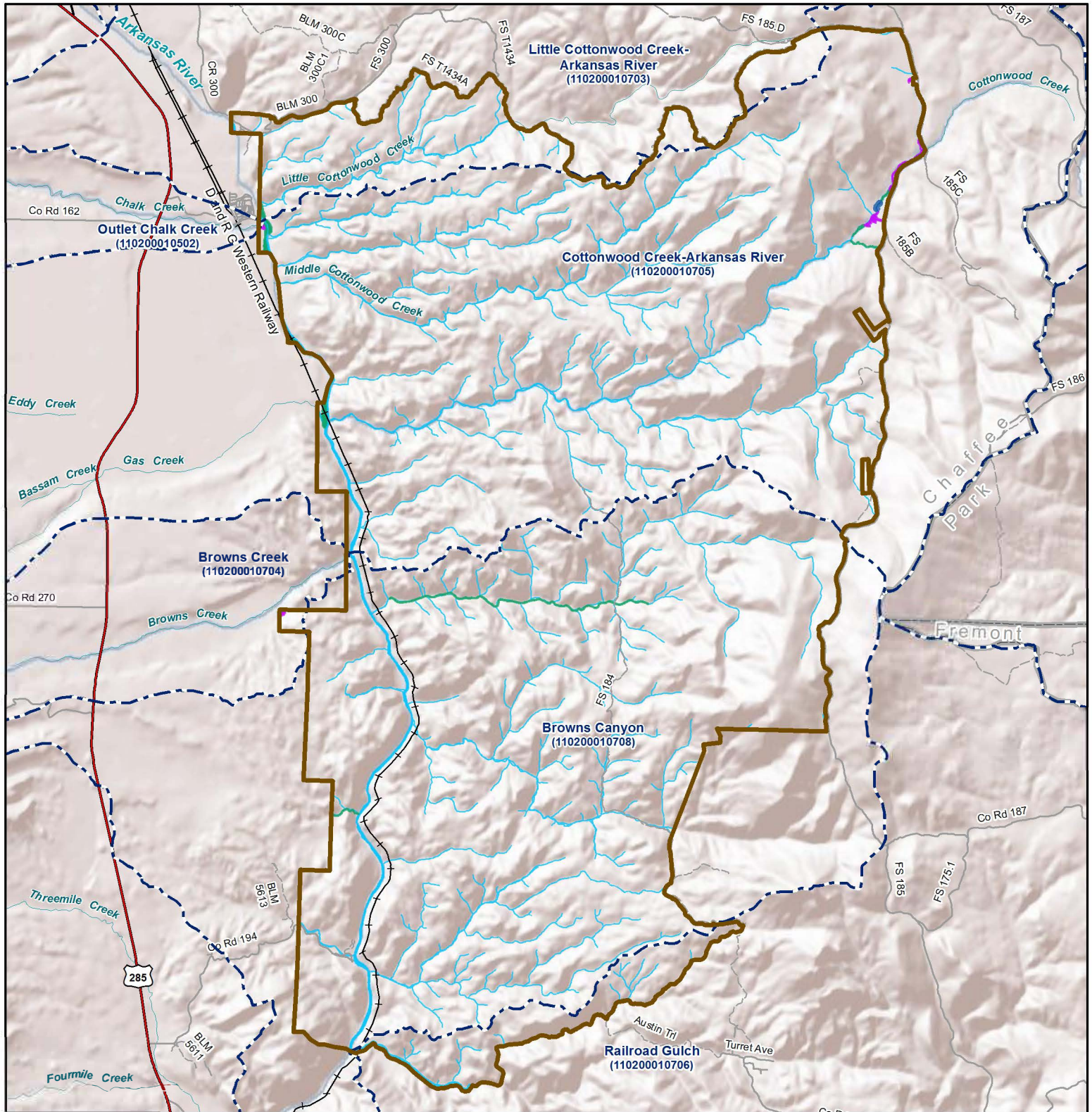


## Map 8 - Visual Resources Alternative C



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

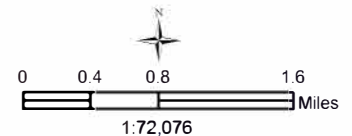




- Browns Canyon NM
- Sixth-level Watershed
- Wetlands**
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Lake or Pond
- Riverine

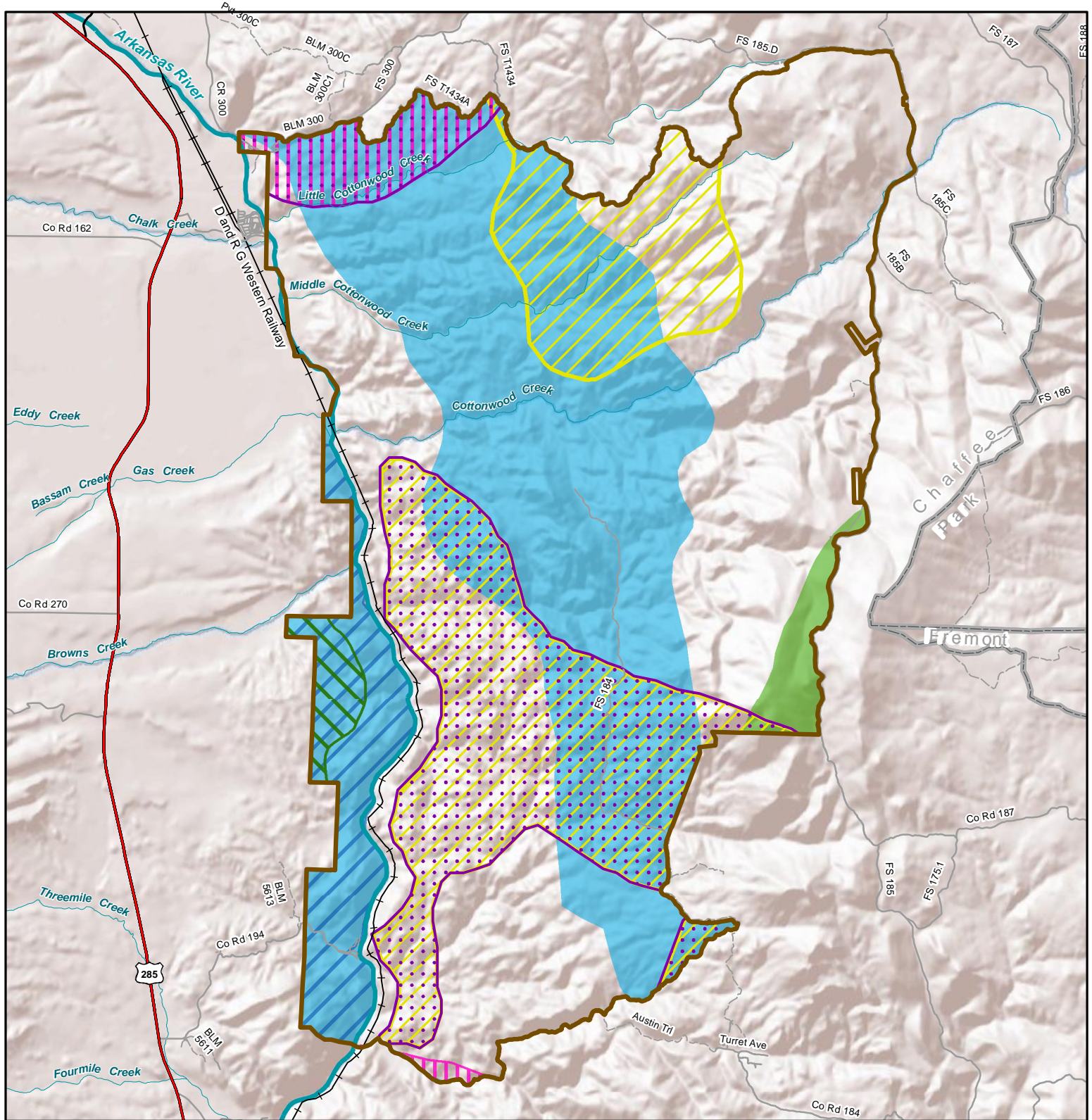


## Map 9 - Browns Canyon National Monument Planning Area Waters within the National Monument Boundary



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

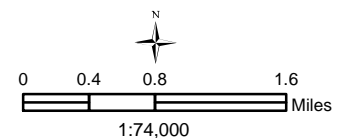




- Browns Canyon NM
- Bighorn Sheep**
- Summer Concentration Area
- Winter Concentration Area
- Production Area
- Elk**
- Summer Concentration Area
- Winter Concentration Area
- Mule Deer**
- Concentration Area
- Winter Concentration Area

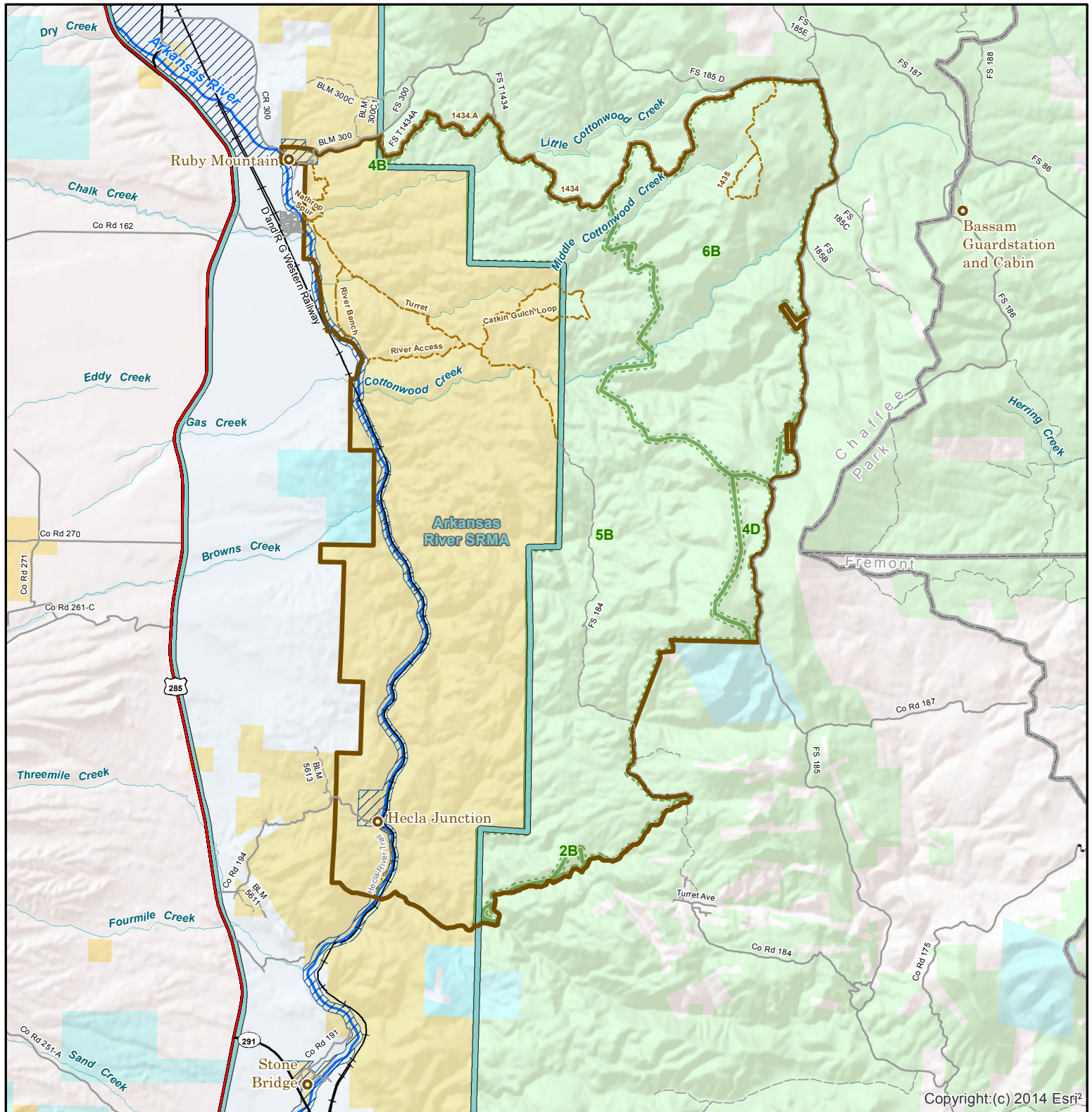


## Map 10 - Browns Canyon National Monument Big Game Concentration Areas



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

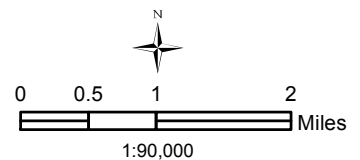




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Cooperative Management Lands
- Arkansas River SRMA
- USFS Management
- State
- Bureau of Land Management
- Private
- U.S. Forest Service

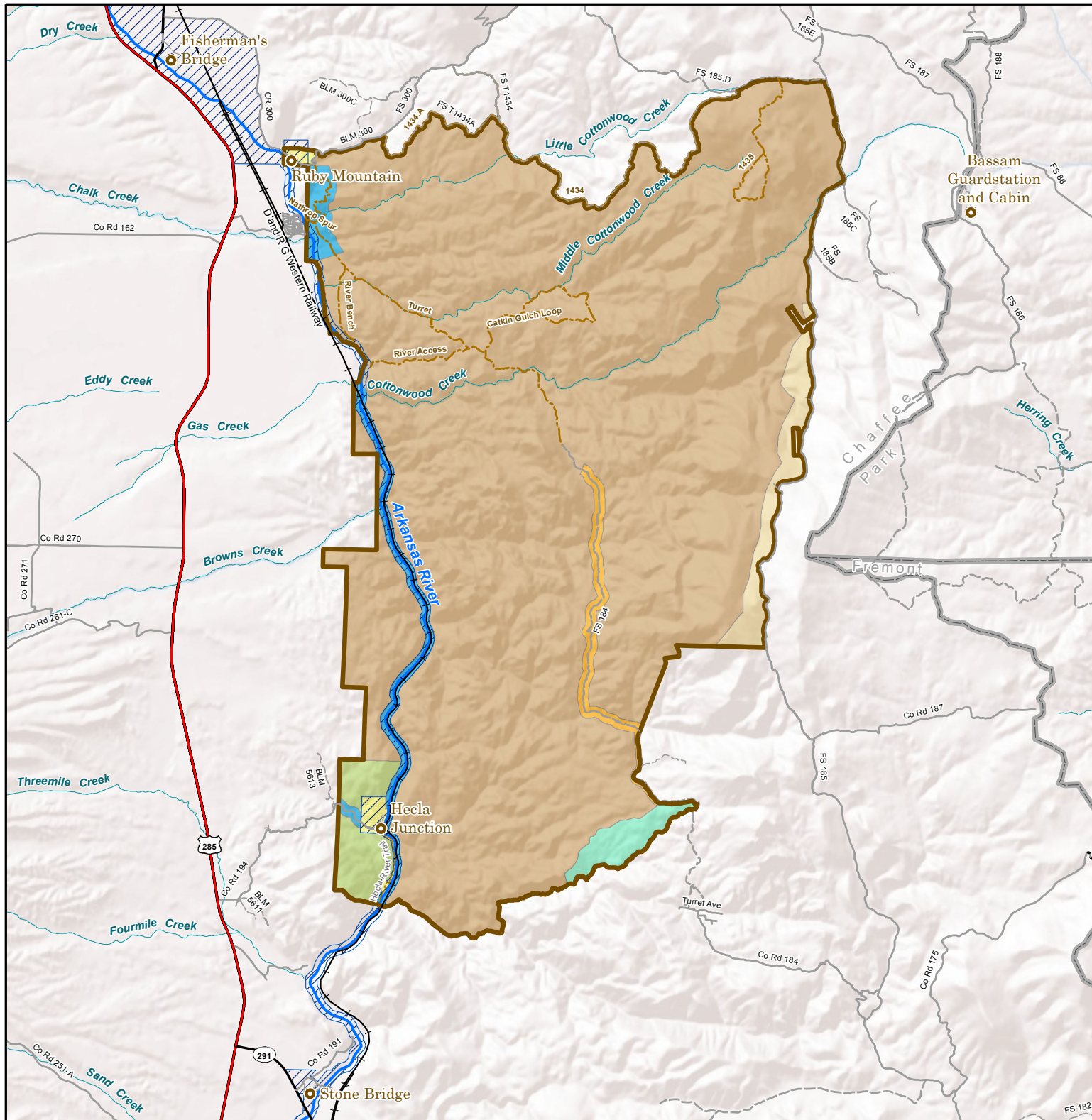


## Map 11 - Recreation Alternative A



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

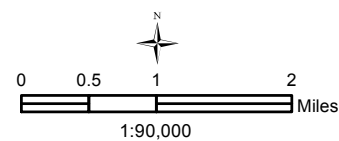




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Cooperative Management Lands
- Management Zones**
- Arkansas River Shore and Passage
- Aspen Ridge
- Hecla Junction - Ruby Mountain Access
- Monument - River East
- Monument - River West
- Railroad Gulch
- Turret Road

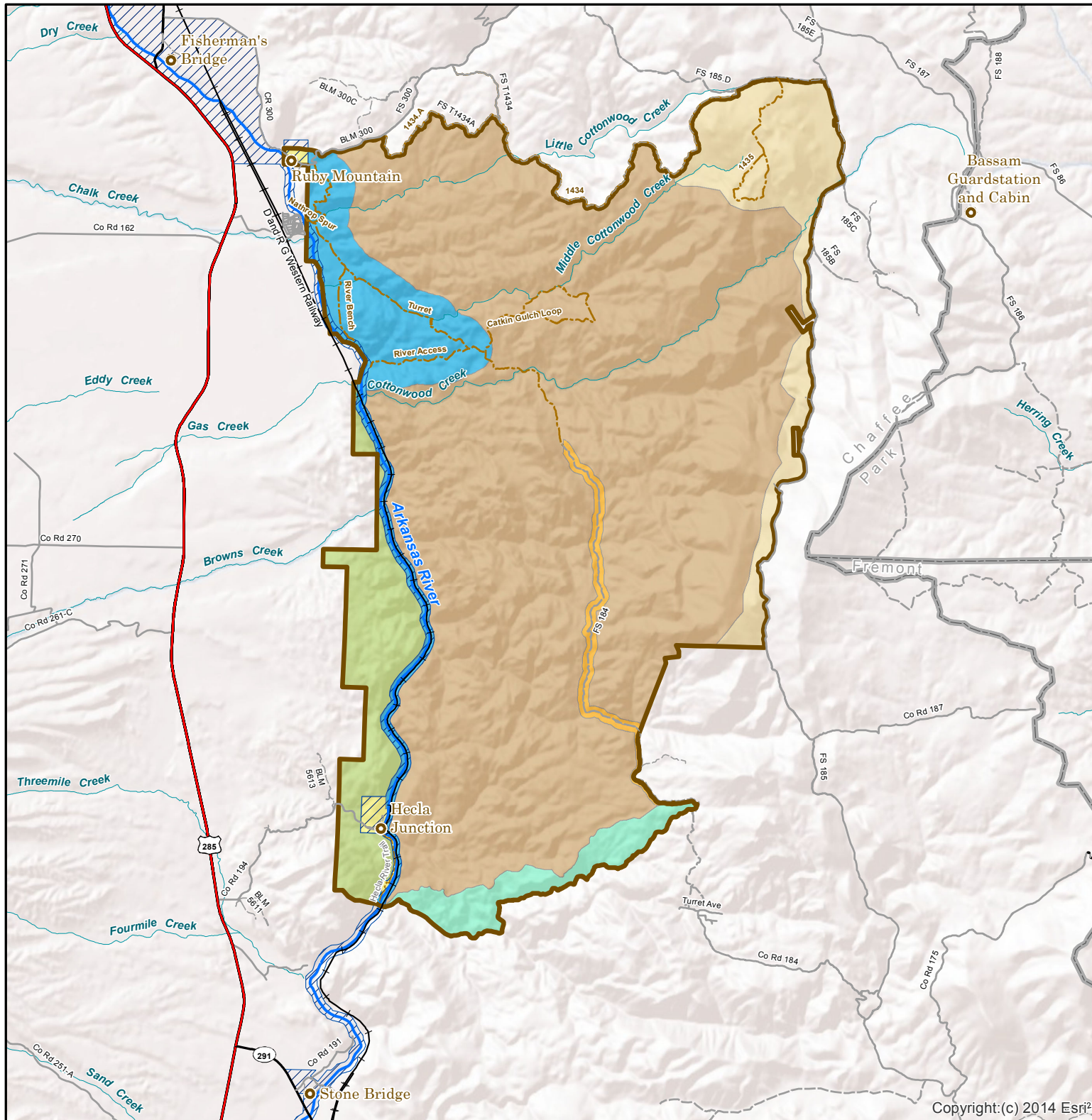


## Map 12 - Recreation Alternative B



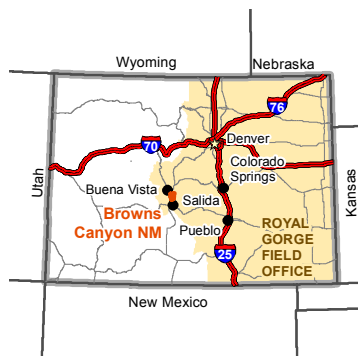
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.



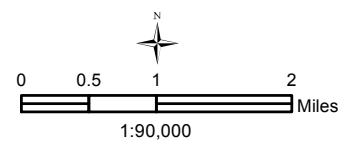


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- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Cooperative Management Lands
- Management Zones**
- Arkansas River Shore and Bench
- Aspen Ridge
- Ruby Mountain - Hecla Junction Access
- Monument - River East
- Monument - River West
- Railroad Gulch
- Turret Road

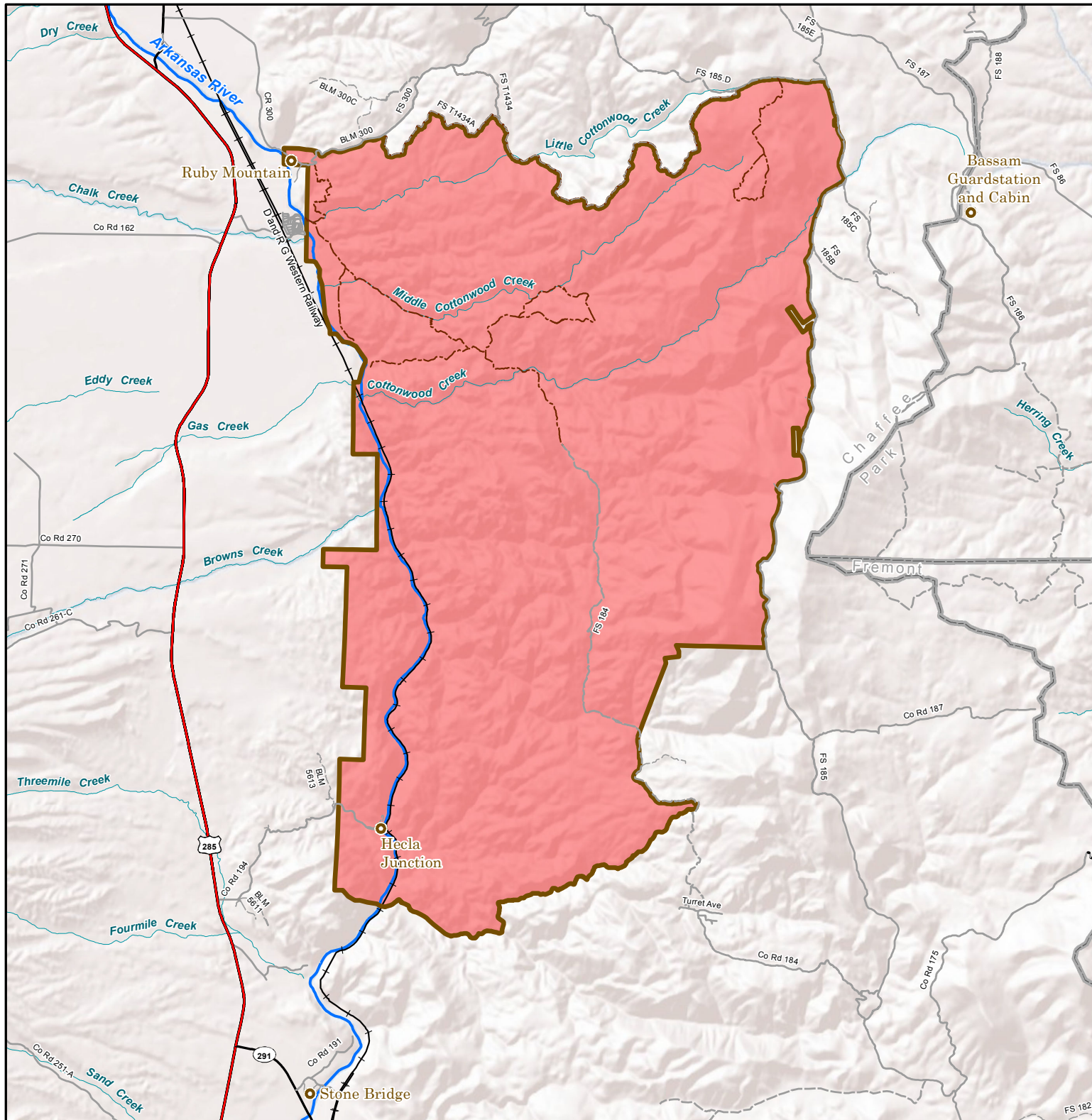


## Map 13 - Recreation Alternative C



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

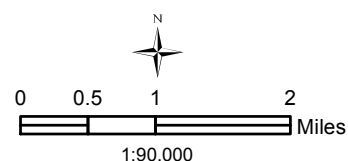




- Recreation Site
- System Trail
- Motorized Route
- Closed Shooting Areas
- Browns Canyon NM

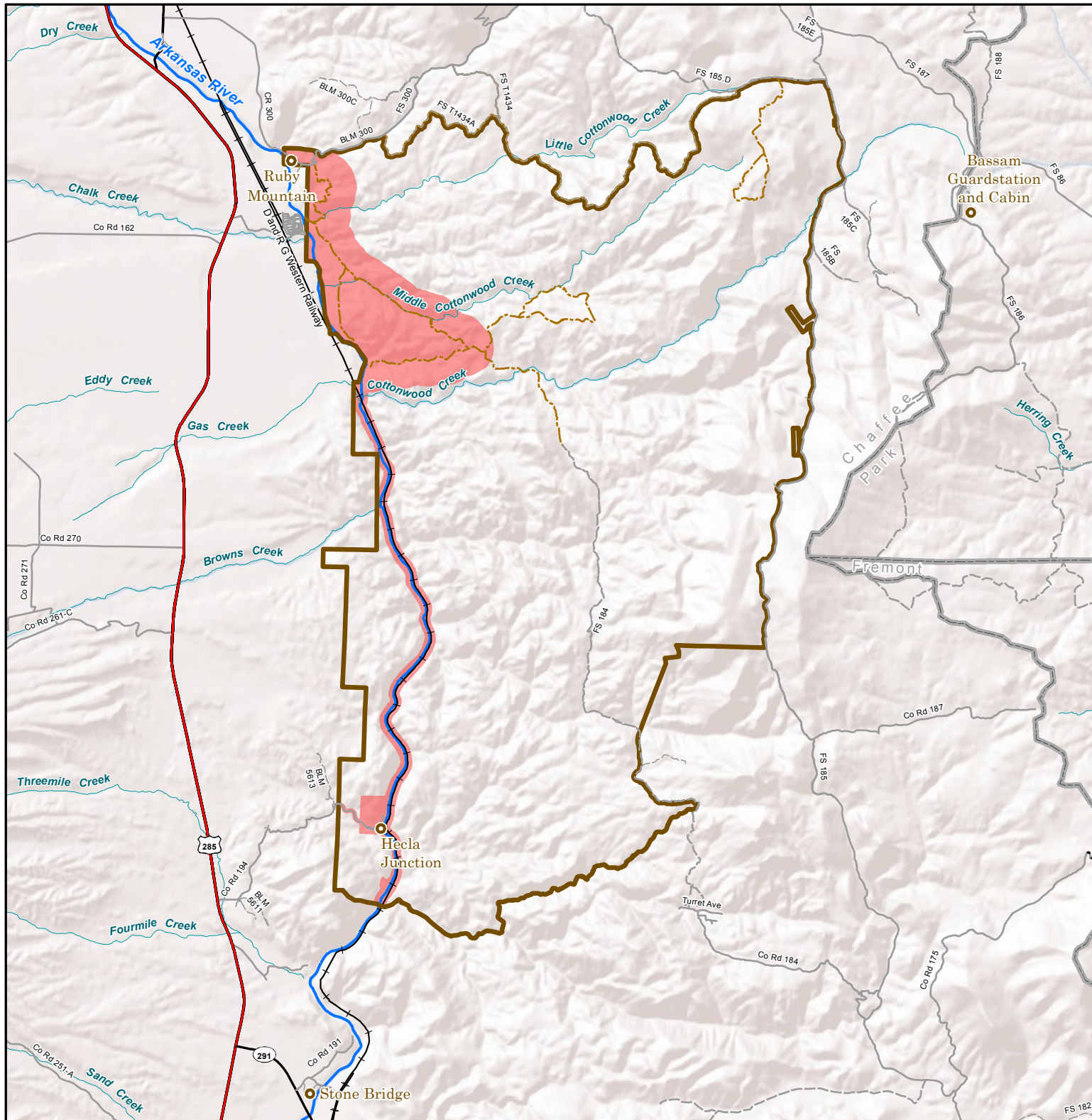


## Map 14 - Recreational Target Shooting Alternative B



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

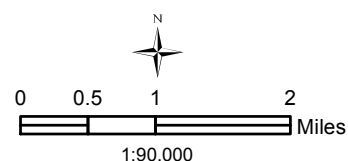




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Closed Shooting Areas

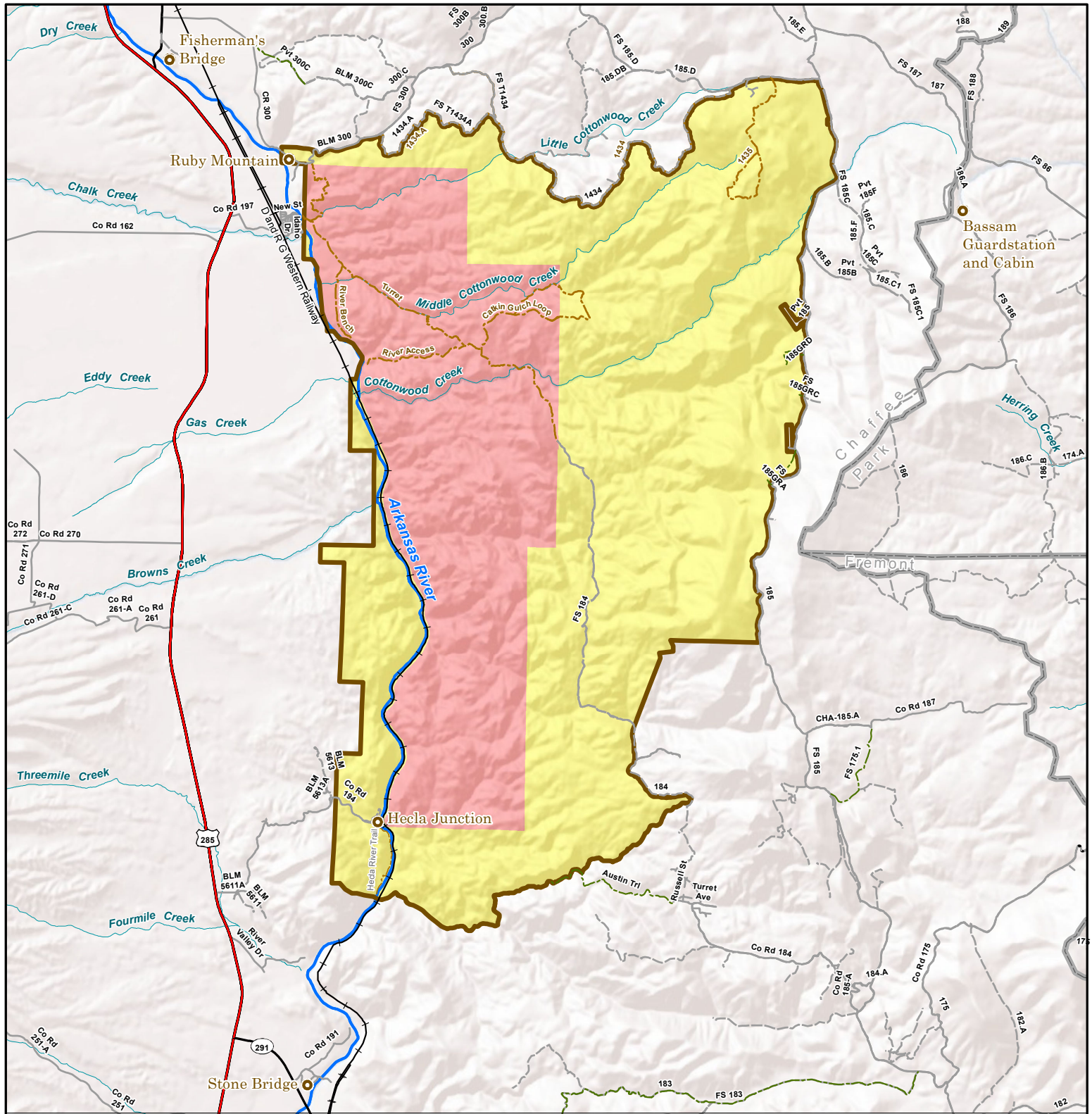


## Map 15 - Recreational Target Shooting Alternative C



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.



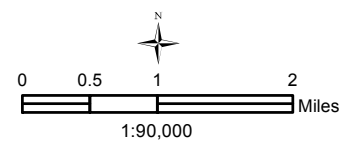


- Recreation Site
  - System Trail
  - Motorized Route
  - Non-System Route\*
  - ▭ Browns Canyon NM
- Travel Management Area Designations**
- ▭ OHV Limited
  - ▭ OHV Closed

\*Routes depicted are not publically accessible and are shown for purposes of discussion. Refer to the USFS Motor Vehicle Use Map and BLM Quad maps for allowed usage. It is the responsibility of the user to acquire and follow all rules and regulations

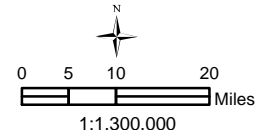
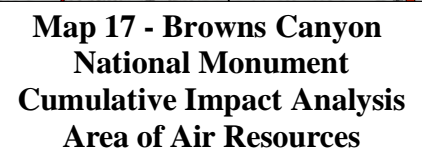


## Map 16 - Travel Management Alternatives A, B, & C



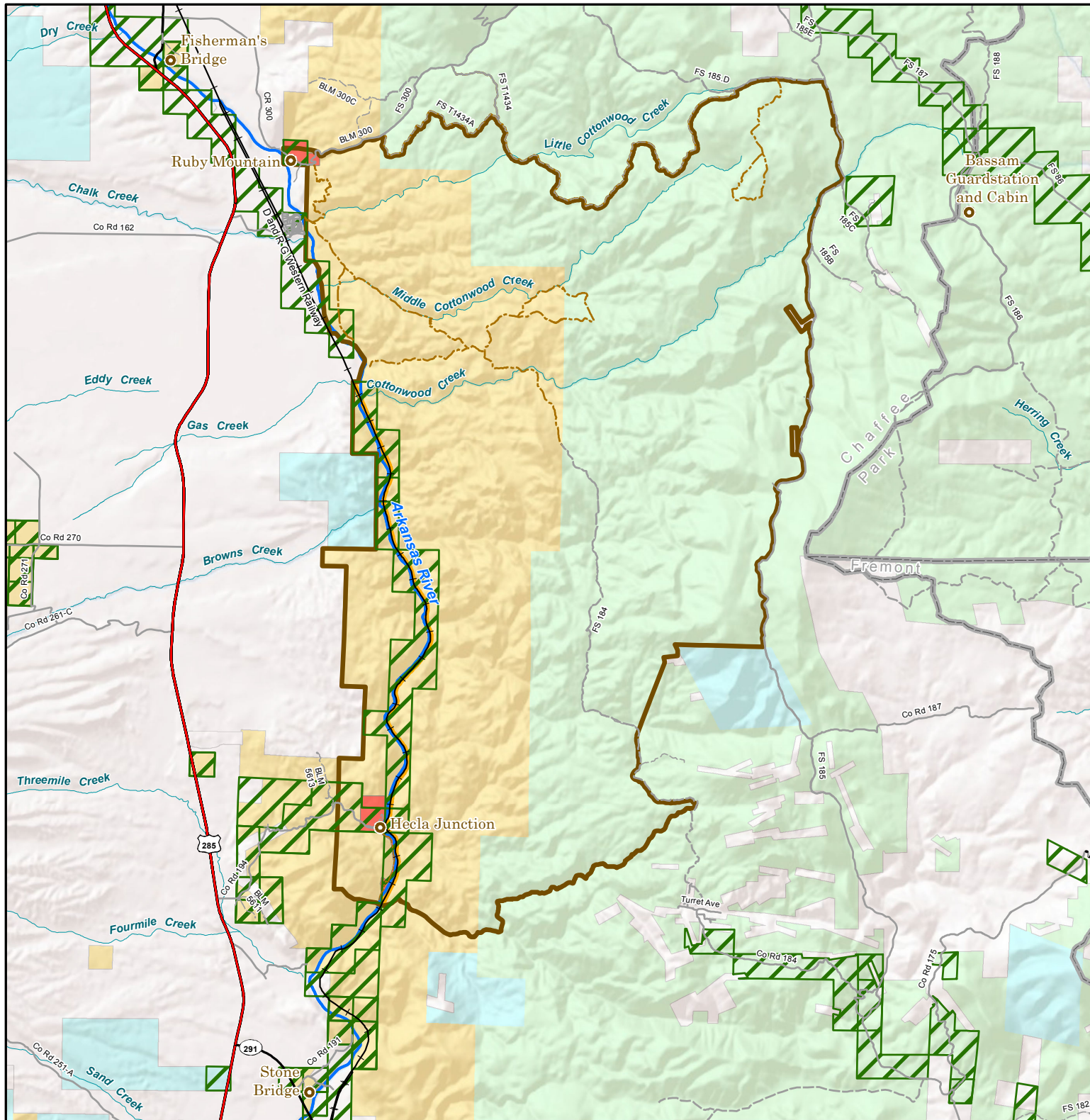
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.



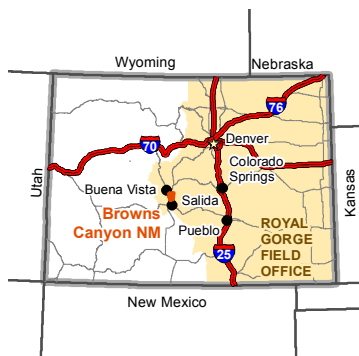


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data.  
All boundaries are an approximate representation.

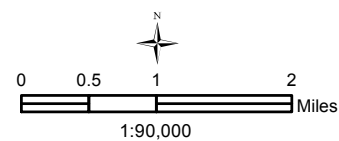




- Recreation Site
- System Trail
- Motorized Route
- R&PP Lease Site
- Railroad 200-ft ROW Corridor
- ▨ ROWs
- ▭ Browns Canyon NM
- State
- Bureau of Land Management
- U.S. Forest Service
- Private

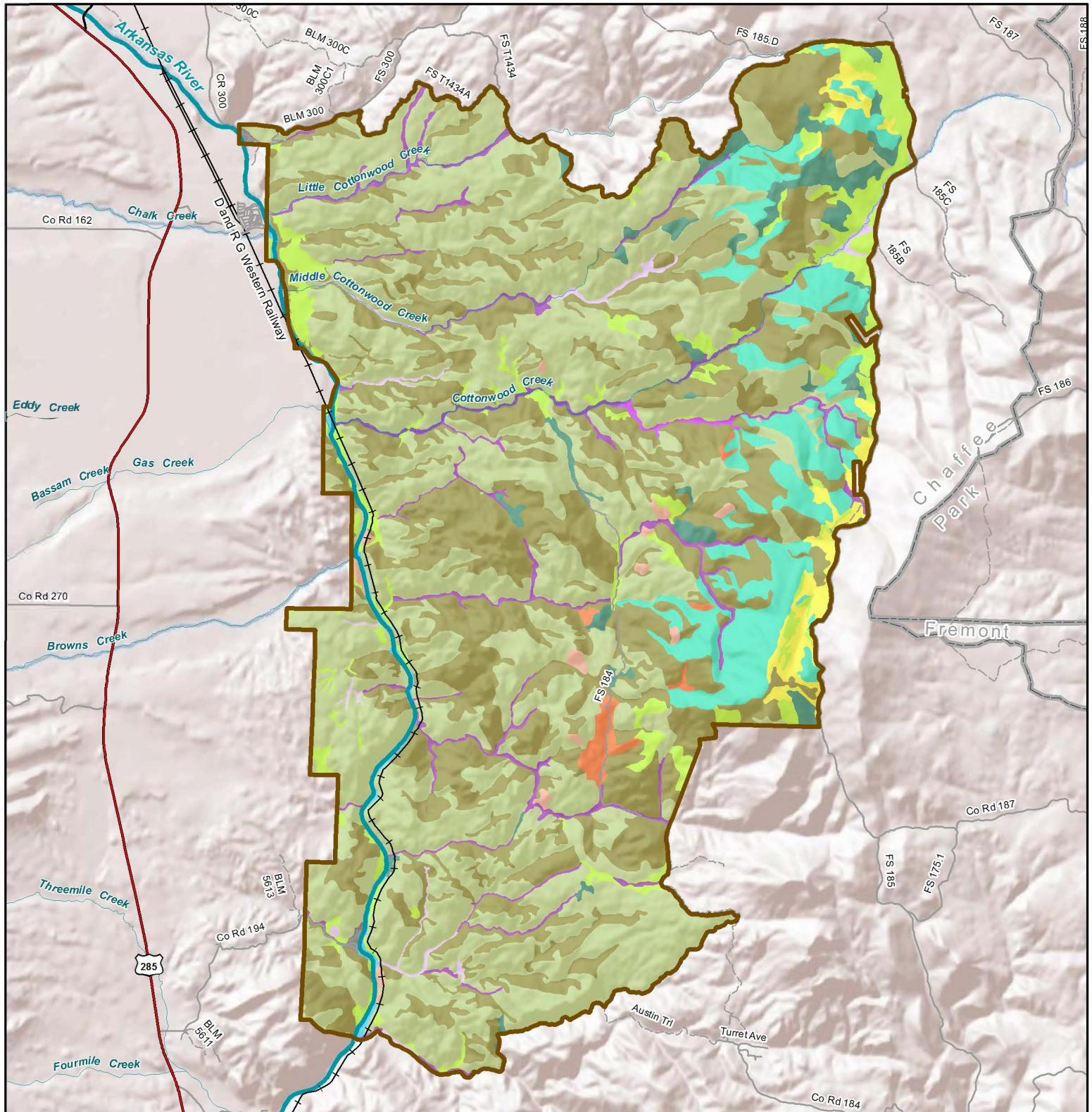


## Map 18 - Lands and Realty



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.



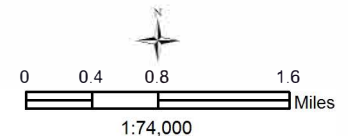


#### Existing Vegetation

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| <25% Vegetation                     | Ponderosa Pine/Grass            |
| Grass/Forb/ Subshrub Dominated      | Spruce-Fir                      |
| Shrub - Mountain Mahogany Dominated | Riparian - Grass/Forb Dominated |
| Aspen Dominated Stands              | Riparian - Shrub Dominated      |
| Mixed Conifer - Cool and/or moist   | Riparian - Tree Dominated       |
| Mixed Conifer - Warm and/or dry     | River Corridor                  |
| Pinyon-Juniper Woodland             | Road and Buildings Dominated    |

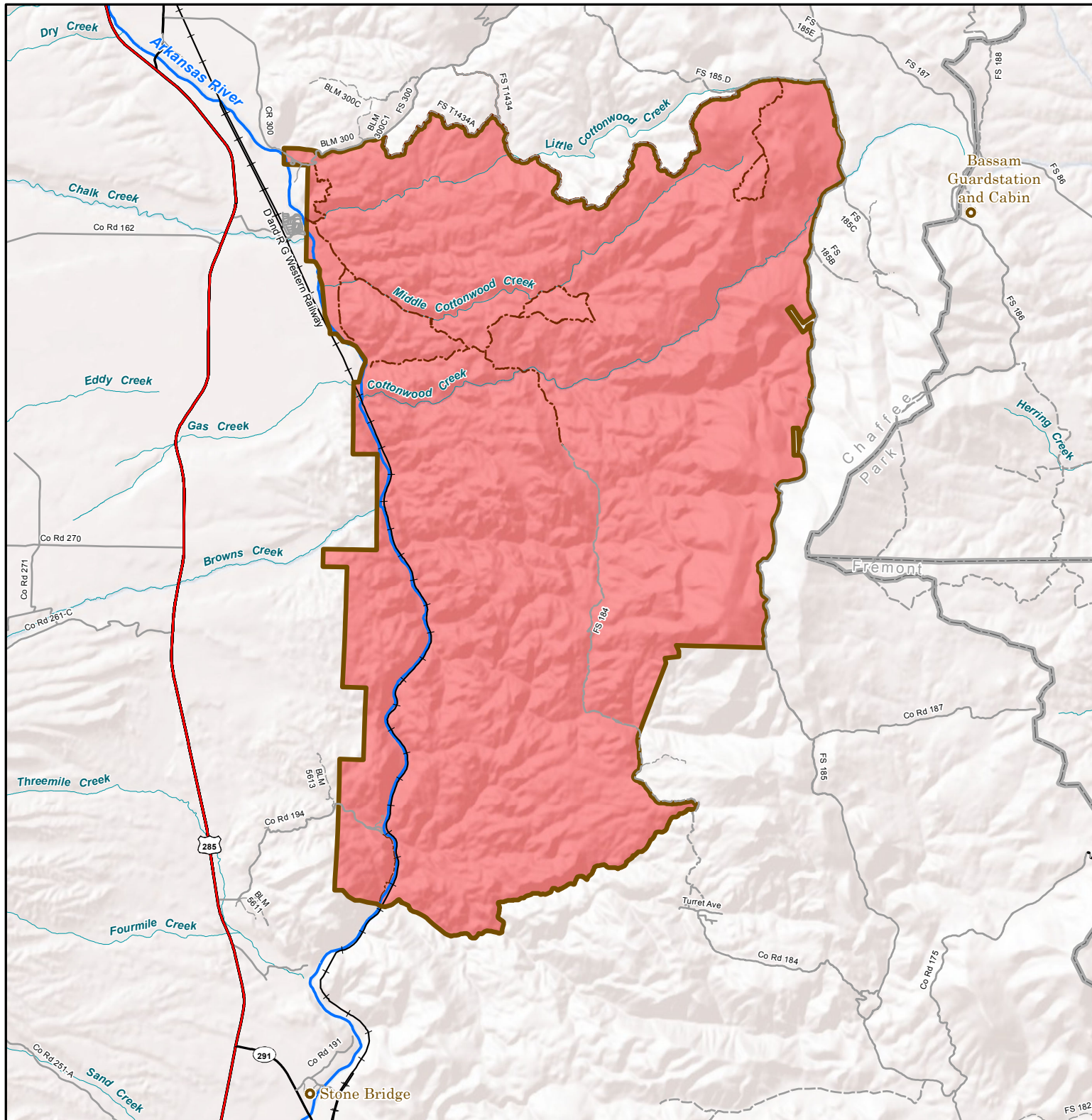


### Map 19 - Browns Canyon National Monument Existing Vegetation Within the National Monument Boundary

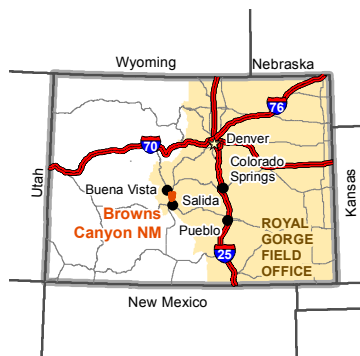


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

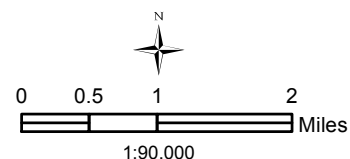




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Sensitivity Level - High

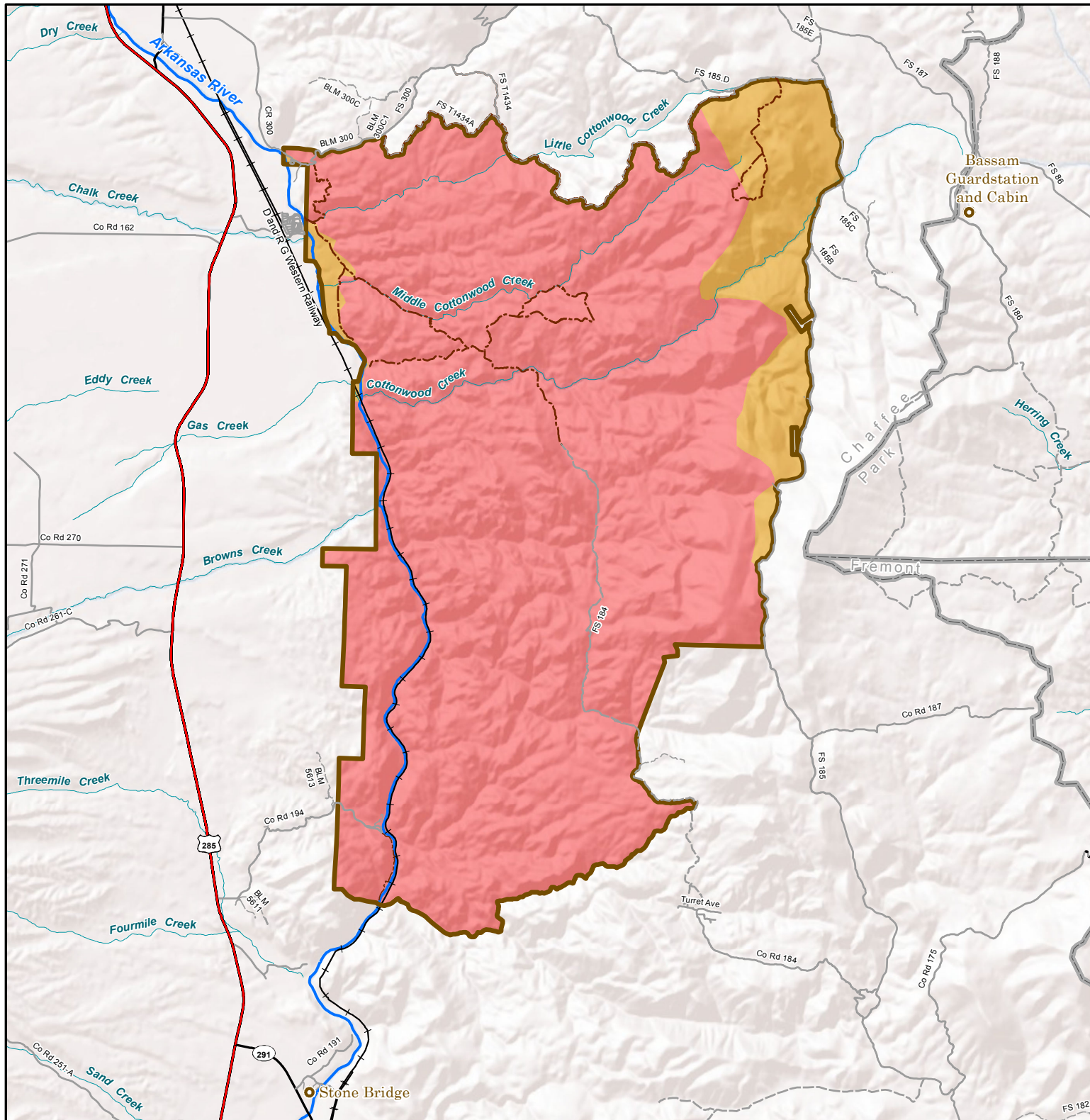


## Map 20 - Sensitivity Level Rating Unit (SLRU)

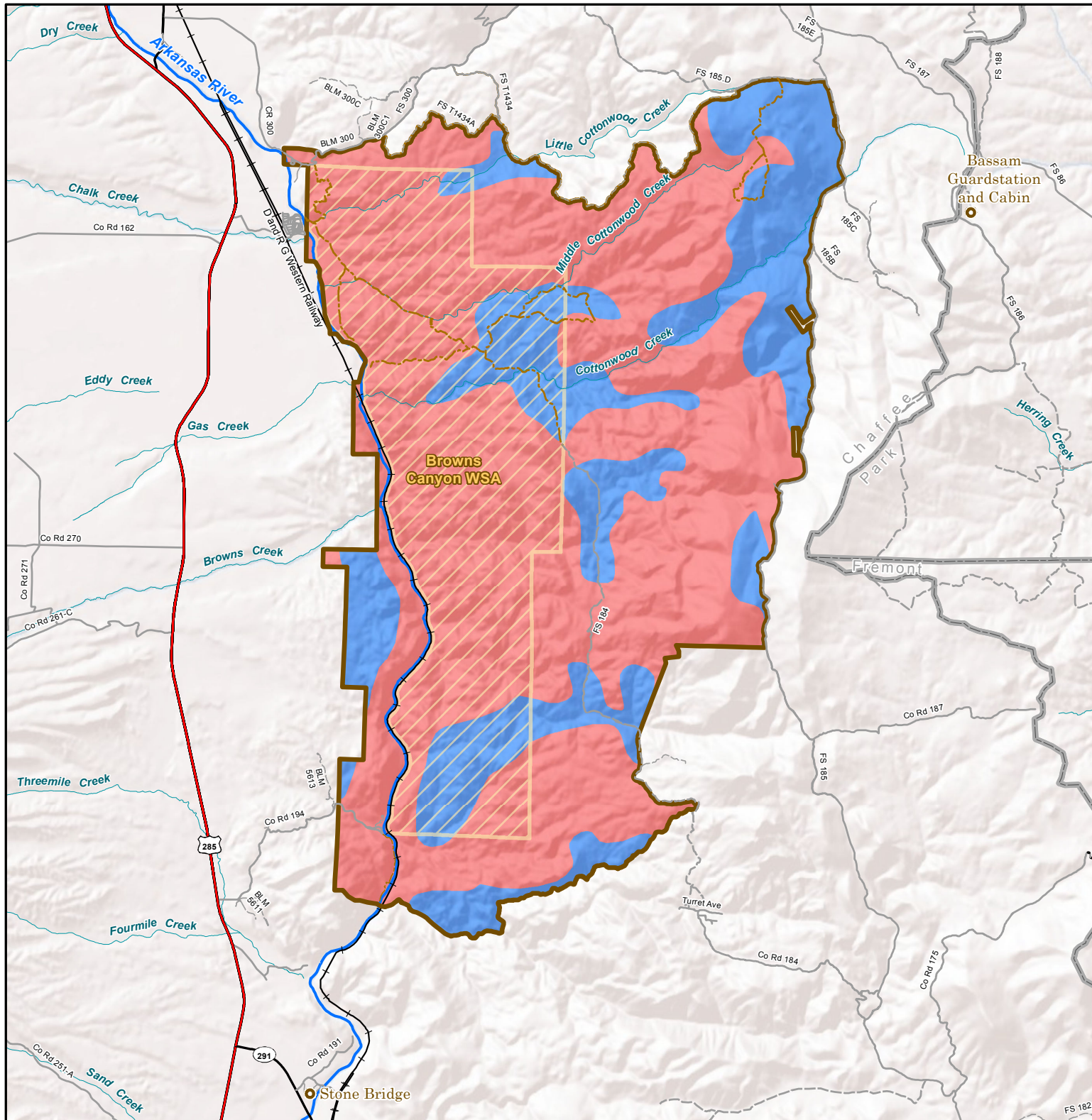


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.





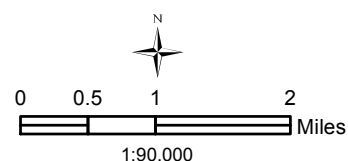




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Wilderness Study Area
- Visual Distance Zone - Foreground-Middleground
- Visual Distance Zone - Seldom Seen

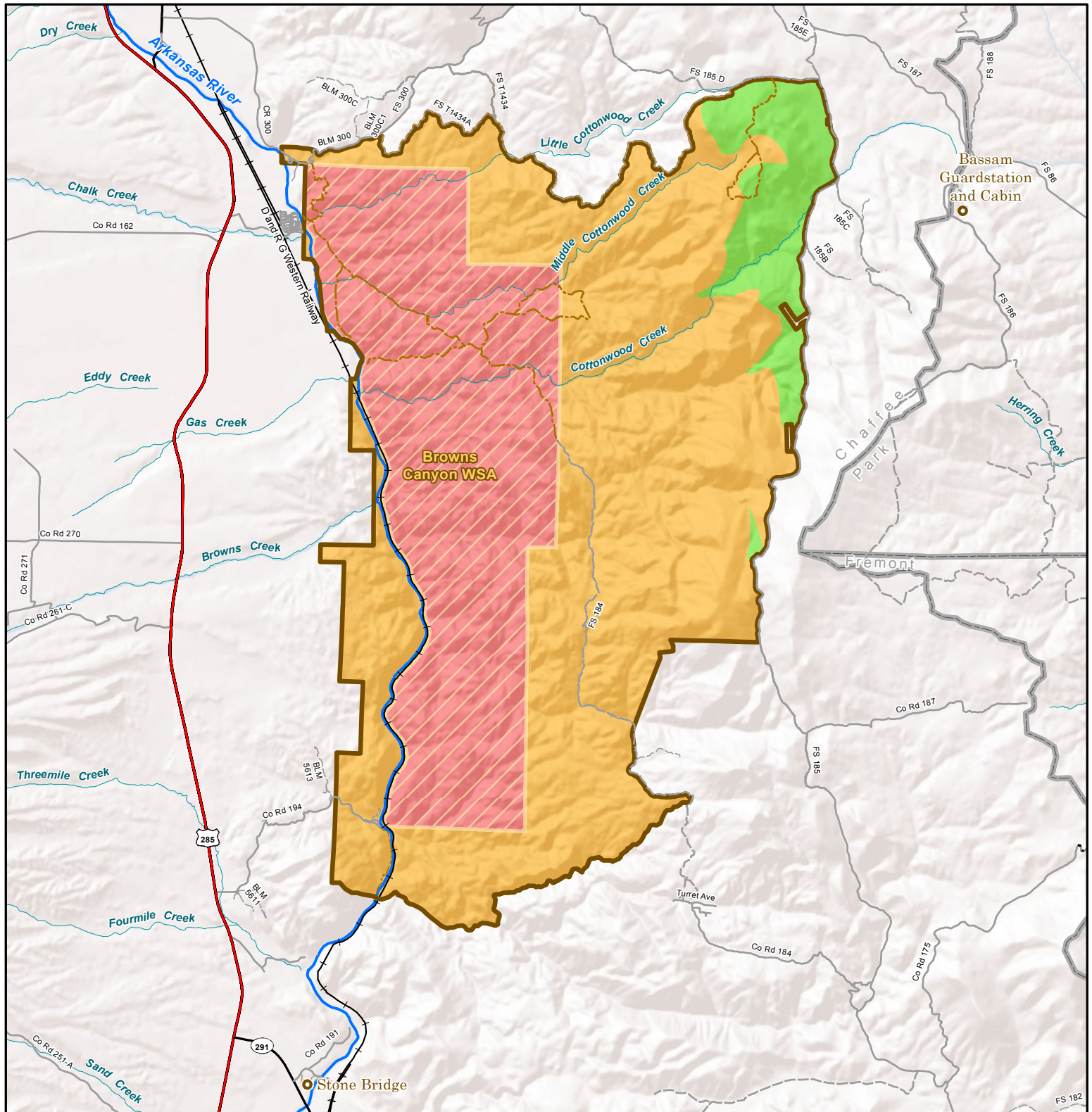


**Map 22 - Visual Distance Zones (VDZ)**



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

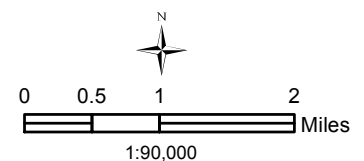




- Recreation Site
- System Trail
- Motorized Route
- Browns Canyon NM
- Wilderness Study Area
- VRI Class I
- VRI Class II
- VRI Class III

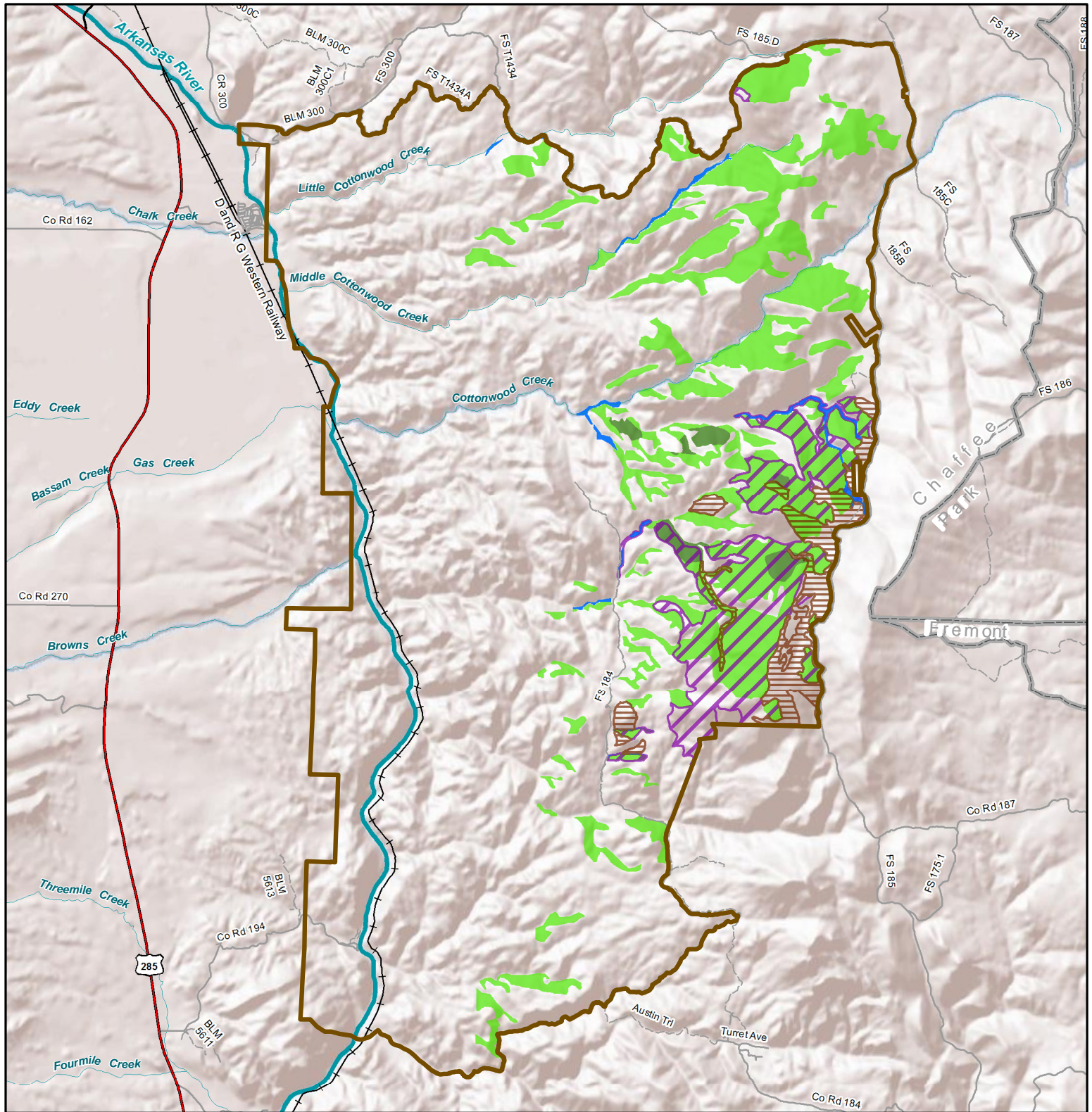


## Map 23 - Visual Resource Inventory (VRI)



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

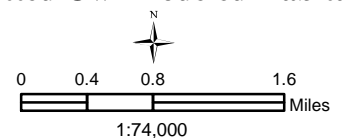




- Browns Canyon NM
- Lynx Habitat Class**
- Primary Habitat
- Secondary Habitat
- Mexican Spotted Owl Habitat**
- Forested Foraging/Non-breeding Habitat
- Forested Nest/Roost Habitat
- Riparian Recovery Habitat

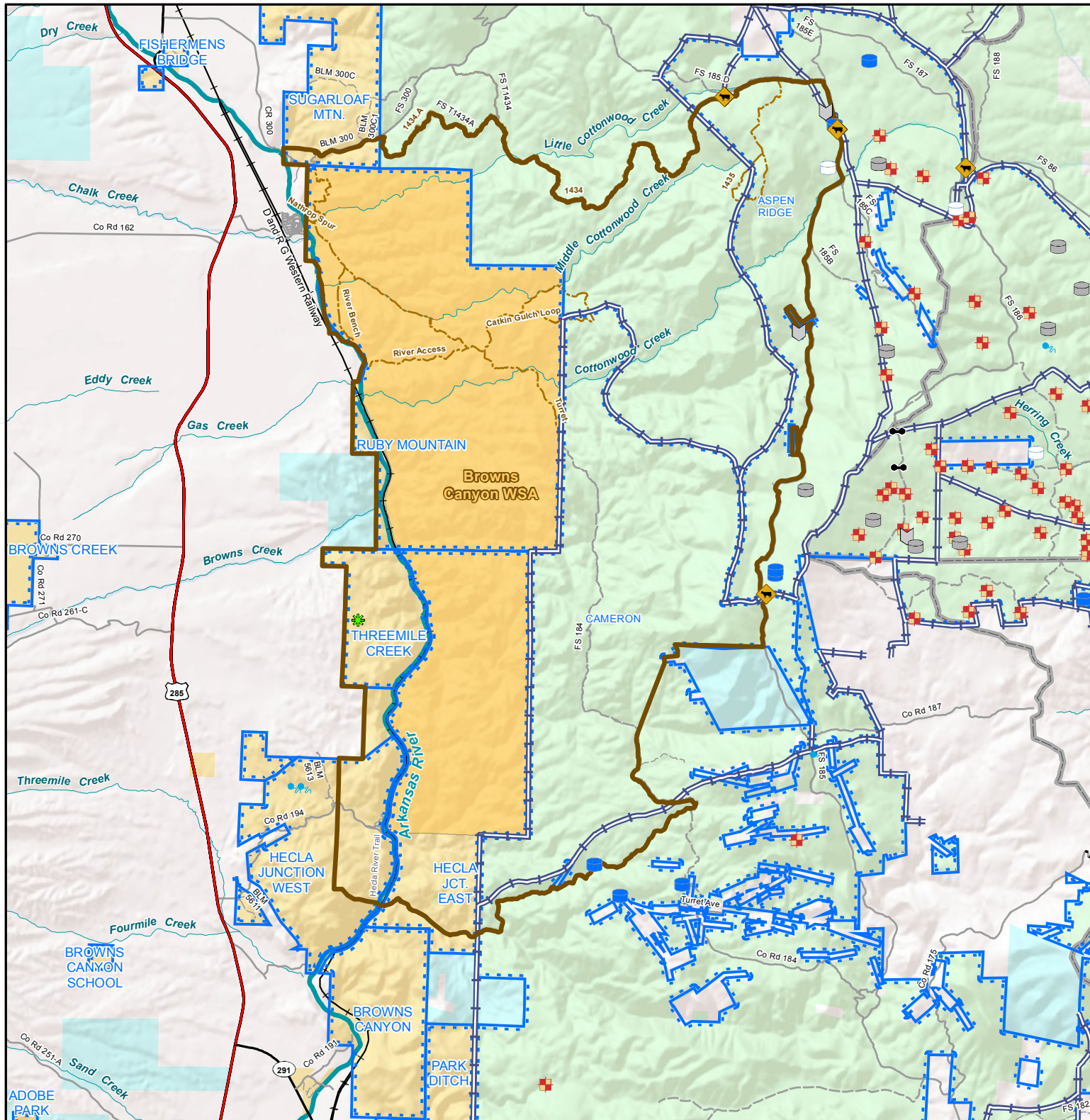


## Map 24 - Browns Canyon National Monument Canada Lynx and Mexican Spotted Owl Modeled Habitat



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

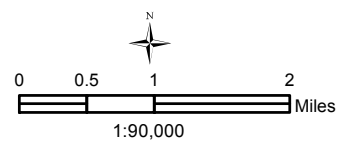




- |  |                           |                           |
|--|---------------------------|---------------------------|
|  | Cattle Guard              | <b>Surface Status</b>     |
|  | Gate                      | State                     |
|  | Pit                       | Bureau of Land Management |
|  | Spring                    | Private                   |
|  | Potential Tank            | U.S. Forest Service       |
|  | Proposed Tank             |                           |
|  | Tank                      |                           |
|  | Trough (CFF)              |                           |
|  | Vegetation Treatment Seed |                           |
|  | Fenceline                 |                           |
|  | Grazing Allotment         |                           |
|  | Wilderness Study Area     |                           |
|  | Browns Canyon NM          |                           |

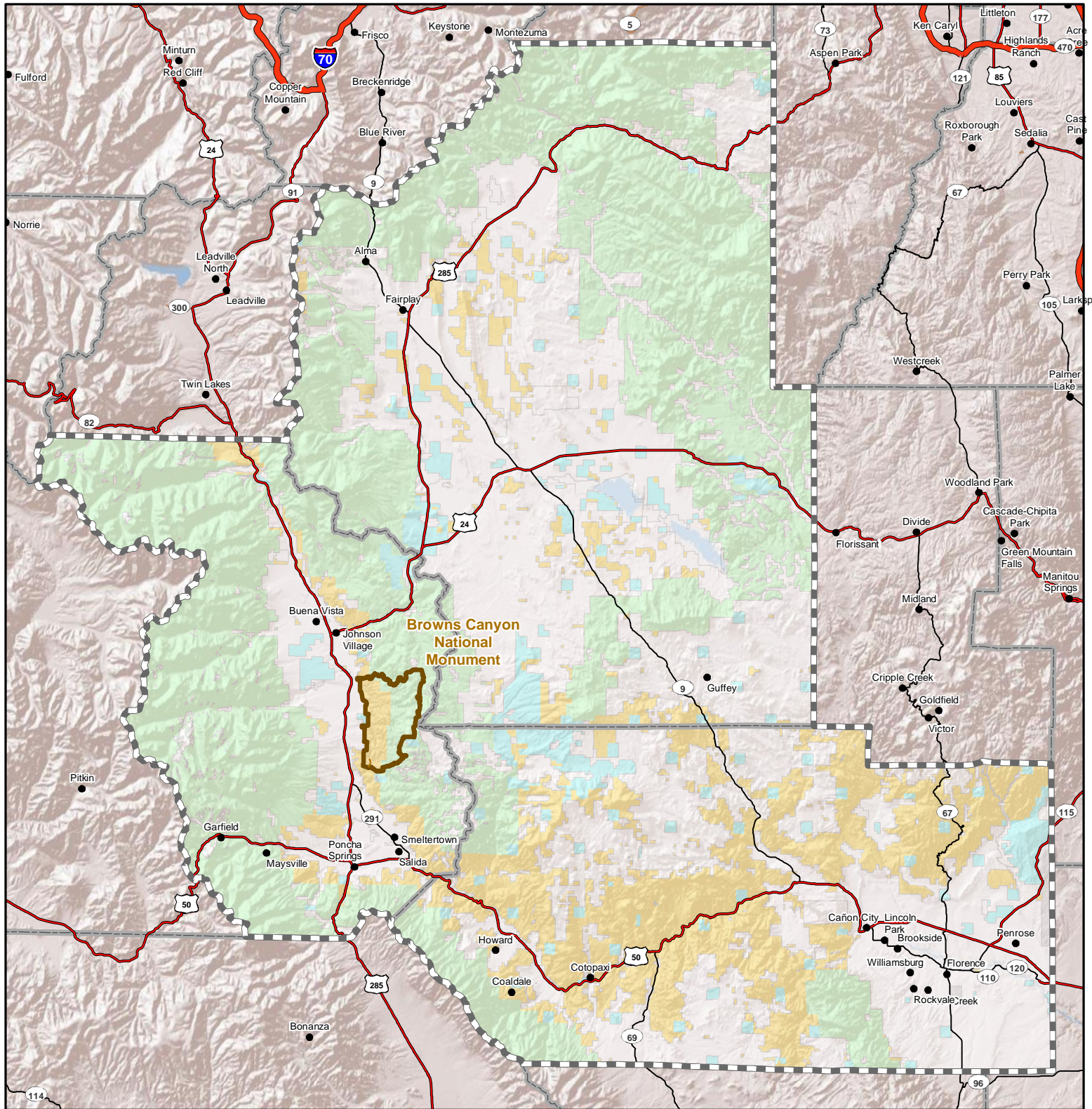


## Map 25 -Livestock Grazing Allotments



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

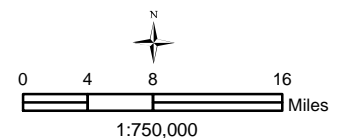




- Socioeconomics Boundary
- Browns Canyon NM
- Surface Status**
  - State
  - Bureau of Land Management
  - Private
  - U.S. Forest Service



## Map 26 - Browns Canyon National Monument Socioeconomics Study Area



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregation use with other data. All boundaries are an approximate representation.

## **Appendix E. Laws, Regulations, Policies, Guidance, and Monument Resources, Objects, and Values**

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### **1. INTRODUCTION**

There are numerous legal bases for management of national monuments on Bureau of Land Management (BLM<sup>1</sup>)- and U.S. Forest Service (USFS)-managed lands. Table 1-2 in the “Browns Canyon National Monument Management Plan – Environmental Impact Statement Planning Assessment” (Planning Assessment; BLM and USFS 2018a) includes an extensive list of existing management direction by resource and resource uses. Some of the laws that must be considered in management planning are as follows:

- Federal Land Policy and Management Act of 1976 as amended (Public Law 94-579)
- Organic Act of June 4, 1987 (30 Stat. 35)
- Transfer Act of 1905 (33 Stat. 628.16 U.S. Code [U.S.C.] 472)
- Multiple Use-Sustained Yield Act of 1960 (16 U.S.C. 528)
- Wilderness Act of 1964 (16 U.S.C. 1131-1136)
- Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 [note], 1271-1287)
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)

In addition, other statutes and regulations, instructional memoranda, manuals, and handbooks inform the BLM's and USFS's planning efforts. These include the following:

- Laws, regulations, and orders
- Instruction memoranda, information bulletins, manuals, handbooks, and notes
- Applicable Colorado State laws and regulations
- Memoranda and agreements
- Applicable planning documents

Resource specific laws and policies are listed in the sections below.

### **1.1 Statutes, Regulations, and Orders**

#### **1.1.1 Statutes**

- American Indian Religious Freedom Act (49 U.S.C. 47125 et seq.)
- Antiquities Act of 1906 (Public Law 59-209; 34 Stat. 225; 16 U.S.C. 431 -433)
- Appropriations Act of 1952, McCarran Amendment
- Archaeological Resources Protection Act of 1979, as amended (16 U.S.C. 470)
- Colorado Noxious Weed Act of 2017

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<sup>1</sup> Note: For a list of acronyms and abbreviations used, refer to Volume 1, page v.

- Federal Cave Resources Protection Act of 1988 (16 U.S.C. 4301 et seq.)
- Federal Water Pollution Control Act (commonly known as the Clean Water Act), as amended (33 U.S.C. 1251-1387)
- Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.)
- Historic Sites Act of 1935 (16 U.S.C. 461)
- Migratory Bird Conservation Act of 1929, as amended (16 U.S.C. 715)
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470)
- Native American Graves Protection and Repatriation Act, as amended (NAGPRA; 25 U.S.C. 3001 et seq.)
- Noise Control Act of 1972 (42 U.S.C. 4901 et seq.)
- Noxious Weed Control and Eradication Act of 2004, as amended (7 U.S.C. 7701 note. Public Law 108-412 (Oct 30, 2004))
- Onshore Oil and Gas Leasing Reform Act of 1987 (30 U.S.C. 181 et seq.)
- Recreation and Public Purposes (R&PP) Act of 1926, as amended (43 U.S.C. 869 et seq.)
- The R&PP Amendment Act of 1988
- The Sikes Act of 1974, as amended (16 U.S.C. 670 et seq.)
- Soil and Water Resources Conservation Act of 1977 (16 U.S.C. 2001)
- Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.)
- The Common Varieties of Mineral Materials Act of 1947
- The Mineral Leasing Act of 1920
- The Mineral Leasing Act for Acquired Lands of 1947
- The Multiple Use Mining Act of 1955
- The Organic Administration Act of 1897
- The United States Mining Laws of 1872
- Paleontological Resources Preservation Act (16 U.S.C. 473aaa et seq.)

### **1.1.2 Regulations**

- 40 CFR 1500 et seq. (Council on Environmental Quality [CEQ] Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA))
- 40 CFR 1505.1(e) (Purpose)
- 43 CFR Part 3 (Preservation of American Antiquities; implementing regulations for the Antiquities Act)
- 43 CFR Part 7 (Protection of Archaeological Resources)
- 43 CFR Part 10 (NAGPRA Regulations; Final Rule)
- 43 CFR Part 1600 (Planning, Programming, Budgeting)
- 43 CFR Part 8342.1 (Designation Criteria)
- 43 CFR 1502.14 (Alternatives Including the Proposed Action)



- 43 CFR 1610.4-2 (Development of Planning Criteria)
- 43 CFR 1610.4-9 (Monitoring and Evaluation)
- 43 CFR 2920 (Leases, Permits and Easements)
- 43 CFR 4180 (Fundamentals of Rangeland Health and Standards and Guidelines for Grazing)
- 43 CFR 8340 (Off-Road Vehicles)
- 43 CFR 4180.2(c) (Standards and Guidelines for Grazing Administration)
- 43 CFR 8365.1-5 (Property and Resources)
- 43 CFR 8365.1-7(c) (State and Local Laws)
- 43 CFR 8365.2-5(a) (Public Health, Safety and Comfort)
- 36 CFR Part 78 (Waiver of Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act)
- 36 CFR 79 (Curation of Federally Owned and Administered Archeological Collections)
- 36 CFR Part 60 (National Register of Historic Places)
- 36 CFR 60.4 (Criteria for Evaluation)
- 36 CFR 219 (USFS Species of Conservation Concern)
- 36 CFR 219.59 (Use of Other Administrative Review Processes)
- 36 CFR Part 222 (Range Management)
- 36 CFR 251 (Land Uses)
- 36 CFR 261.10 (d) (Occupancy and Use)
- 36 CFR 294.43(c)(1)(ix) (Prohibition on Road Construction and Reconstruction)
- 36 CFR Part 800 (Protection of Historic Properties)
- 43 CFR (Public Lands, Interior), Parts 2100, 2200, 2300, 2700, 2800, 2900, 3100, 3200, 3400, 3500, 3600, and 3800

### **1.1.3 Orders**

- Executive Order 11987—Exotic Organisms
- Executive Order 13007—Indian Sacred Sites
- Executive Order 13084—Consultation and Coordination with Indian Tribal Governments
- Oil and gas onshore orders

## **1.2 Instruction Memoranda, Information Bulletins, Manuals, Handbooks, and Agreements**

Instruction memoranda, information bulletins, manuals, handbooks, and agreements guide BLM and USFS land management decisions and activities. Broadly applicable documents for many resources in Browns Canyon National Monument (BCNM) are listed in Table 1-2 of the Planning Assessment (BLM and USFS 2018a). Documents for specific resources are listed below.

- BLM Manual 1613, Areas of Critical Environmental Concern
- BLM Manual 1626, Travel and Transportation Management Manual
- BLM Manual 2881, Mineral Leasing Act—General
- BLM Manual 3600, Mineral Materials Disposal
- BLM Manual 3720, Abandoned Mine Land Program Policy
- BLM Manual 3800, Mining Claims Under the General Mining Laws
- BLM Manual 6320, Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process.
- BLM Manual 6840, Special Status Species Management
- BLM Manual 7250, Water Rights Manual
- BLM Manual 7300, Air Resource Management Program
- BLM Manual 8100, The Foundation for Managing Cultural Resources
- BLM Manual 8270, Paleontological Resource Management
- BLM Manual 9011, Chemical Control
- BLM Manual 9014, Biological Control
- BLM Manual 9015, Integrated Pest Management
- Forest Service Manual (FSM) 2200, Rangeland Management
- FSM 2370, Recreation, Wilderness and Related Resource Management – Special Recreation Designations
- BLM H-1740-2, Integrated Vegetation Management
- BLM H-1741-1, Fencing
- BLM H-1741-2, Water Developments
- BLM H-3042-1, Solid Minerals Reclamation Handbook
- BLM H-3160-5, Inspection and Enforcement Documentation and Strategy Development Handbook
- BLM H-3600-1, Mineral Materials Disposal Handbook
- BLM H-3720-1, Abandoned Mine Land Program Policy Handbook
- BLM H-4110-1, Qualifications & Preference
- BLM H-4120-1, Grazing Management
- BLM H-4130-1, Authorizing Grazing Use
- BLM H-4150-1, Unauthorized Grazing Use
- BLM H-4160-1, Administrative Remedies
- BLM H-4400-1, Range Monitoring
- BLM H-6310-1, Wilderness Inventory and Study Procedures
- BLM H-8550-1, Interim Management Policy and Guidelines for Lands Under Wilderness Review
- BLM H-9211-1, Fire Planning Handbook



- BLM H-9214-1, Fuels Management and Community Assistance Handbook
- Forest Service Handbook (FSH) 2209.13, Grazing Permit Administration Handbook
- BLM policy and program guidance for the management of cultural resources outlined in BLM Manual sections 8100, 8110, 8120, H-8120-1, 8130, 8140, 8150, and 8170
- BLM Colorado Handbook of Guidelines and Procedures for Inventory, Evaluation, and Mitigation of Cultural Resources (BLM 2011a)
- BLM-Colorado Digital Data Specifications Guide (BLM 2013)
- BLM Information Bulletin (IB) 99-085, Federal Multi-Agency Source Water Agreement
- BLM IB WO-2002-002, New Heritage Education Plan
- BLM IB WO-2002-101, Cultural Resource Considerations in Resource Management Plans (BLM 2002a)
- BLM IB WO-2004-154, Amendments to 36 CFR Part 800, Protection of Historic Properties
- BLM Instruction Memorandum (IM) 2018-014, Third-Party Uses on Railroad Rights-of-Way under the General Railroad Right-of-Way Act of March 3, 1875
- BLM IM 2108-23, Incorporating Thresholds and Responses into Grazing Permits/Leases
- BLM IM 2017-006, Travel and Transportation Management Planning Schedules and Travel and Transportation 5-year Strategy
- BLM IM 2009-116, Memorandum of Understanding (MOU) between BLM and the Animal and Plant Health Inspection Service Addressing the Management of Grasshoppers and Mormon Crickets
- BLM IM 2007-002, BLM Reburial Policy on BLM Lands (BLM 2006)
- Department of the Interior (DOI) Departmental Manual. Part 411, Identifying and Managing Museum Property (DOI 2012)
- Guidance for Implementation of Federal Wildland Fire Management Policy (U.S. Department of Agriculture [USDA] and BLM 2009)
- Interagency Standards for Fire and Fire Aviation Operations ("The Red Book," updated annually) (Interagency Standards for Fire and Fire Aviation Operations Group, National Interagency Fire Center 2019)
- National Forest Landscape Management Handbook – Chapter 1 The Visual Management System (USFS 1974)
- U.S. Department of Agriculture (USDA), Forest Service. National Forest Landscape Management: Volume 1. Agriculture Handbook 434. Washington, DC: USDA; 1973.
- USDA, Forest Service. National Forest Landscape Management: Volume 2, Chapter 1: "Landscape Aesthetics: A Handbook for Scenery Management." Agriculture Handbook 701. Washington, DC: USDA; 1996.
- USDA, Forest Service. National Forest Landscape Management: Volume 2, Chapter 3: "Range." Agriculture Handbook 484. Washington, DC: USDA; 1977.
- USDA, Forest Service. National Forest Landscape Management: Volume 2, Chapter 4: "Roads." Agriculture Handbook 483. Washington, DC: USDA; 1977.

- USDA, Forest Service. National Forest Landscape Management: Volume 2, Chapter 5: "Timber." Agriculture Handbook 559. Washington, DC: U.S. Department of Agriculture; 1980.
- USDA, Forest Service. National Forest Landscape Management: Volume 2, Chapter 6: "Fire." Agriculture Handbook 608. Washington, DC: USDA; 1985.
- USDA, Forest Service. National Forest Landscape Management: Volume 2, Chapter 8: "Recreation." Agriculture Handbook 666. Washington, DC: USDA; 1987.

### **1.3 Memoranda and Agreements**

Broadly applicable memoranda and agreements for many resources in BCNM are listed in Table 1-2 of the Planning Assessment (BLM and USFS 2018a). Memoranda and agreements for specific resources are listed below.

- Interagency Agreement between the Bureau of Reclamation and the BLM (March 1983)
- MOU on the Coordination and Enhancement of Services to and by the Outfitting Industry in Colorado on National Forest System, BLM and State Public Lands (2007)
- MOU Between the Colorado's Outfitters Association and the DOI BLM, Colorado (2006)
- MOU Between Colorado Mountain Club and the DOI BLM, Colorado State Office (2008)
- MOU Between the Colorado Off-Highway Vehicle Coalition and the COHVCO Foundation and the DOI BLM, Colorado State Office (2005)
- MOU Between the International Mountain Bicycling Association and Bicycle Colorado and the DOI BLM, Colorado State Office (2005)
- MOU Between DOI BLM, Colorado State Office and Colorado River Outfitters Association and Colorado State Parks (2007)
- MOU Between DOI BLM and The Access Fund (2005)
- MOU Between DOI BLM, USDA Forest Service and U.S. Fish and Wildlife Service and Federal Lands Hunting, Fishing, and Shooting Sports Roundtable (2006)
- MOU Between DOI Bureau of Land Management and The Corps Network (2008)
- State Protocol Agreement Between the Colorado State Director of the BLM and the Colorado State Historic Preservation Officer, Regarding the Manner in which the BLM Will Meet Its Responsibilities Under the National Historic Preservation Act and the 2012 National Programmatic Agreement Among the BLM, the Advisory Council On Historic Preservation, and the National Conference of State Historic Preservation Officers
- MOU with Colorado Cattleman's Association for the Colorado Resource Monitoring Initiative (2011)
- MOU Between BLM and Colorado Natural Areas Program
- Federal Lands Hunting, Fishing, and Shooting Sports Roundtable MOU

## **1.4 Activity Level Plans**

- Front Range Fire and Aviation Management Unit Fire Management Plan
- Arkansas Headwaters Recreation Area Final Management Plan / Environmental Assessment (CPW, BLM, and USFS 2019)

## **1.5 Other Policy and Guiding Direction**

- Recreation Management Guidelines to Meet Public Land Health Standards on Bureau of Land Management Lands in Colorado (see BLM 2000b)
- National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001a)
- National Mountain Biking Strategic Action Plan (BLM 2002c)
- BLM Recreation Strategy: Connecting with Communities. 2014–2019 (BLM 2014c)
- Review and Update of the 1995 Wildland Fire Management Policy (Interagency Federal Wildland Fire Policy Review Working Group 2001)
- Guidance for Implementation of Federal Wildland Fire Management Policy (USDA and BLM 2009)
- Colorado Bark Beetle Strategic Plan 2012 (BLM 2012d)
- National Materials and Minerals Policy Research and Development Act of 1980



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2. MONUMENT RESOURCES, OBJECTS, AND VALUES

The following presents the agency interpretation of resources, objects, and values (ROVs) contained in Presidential Proclamation 9232. Each paragraph of Presidential Proclamation 9232 was analyzed to identify ROVs by resource or resource use.

ROV #	Proclamation 9232, Establishment of BCNM (excerpts)	Resources, Objects, and Values (ROVs)	Air and Climate	Geology & Paleontology	Soils & Watersheds	Water Resources	Vegetation	Wildland Fire	Wetlands	Aquatic Wildlife	Wildlife & Avian	Special Status Species	Cultural Resources	Tribal Concerns	Visual	Recreation	Travel	Range & Livestock	ROW & Land Use	Socio-Economics
ROV 1	In central Colorado's vibrant upper Arkansas River valley, the rugged granite cliffs, colorful rock outcroppings, and stunning mountain vistas of Browns Canyon form an iconic landscape that attracts visitors from around the world. The landscape's canyons, rivers, and backcountry forests have provided a home for humans for over 10,000 years, and the cultural and historical resources found in this landscape are a testament to the area's Native Peoples as well as the history of more recent settlers and mining communities.	Scenic Resources: Colorful rock outcroppings; stunning mountain vistas; Browns Canyon; landscape; canyons; rivers; backcountry forests.  Cultural Resources: habitation, historical resources; native peoples; recent settlers; mining communities.		X		X							X	X	X	X				X
ROV 2	The area's unusual geology and roughly 3,000-foot range in elevation support a diversity of plants and wildlife, including a significant herd of bighorn sheep. Browns Canyon harbors a wealth of scientifically significant geological, ecological, riparian, cultural, and historic resources, and is an important area for studies of paleoecology, mineralogy, archaeology, and climate change.	Geology: 3,000-foot range in elevation.  Scientific Resources: biodiversity; significant herd of bighorn sheep; scientifically significant geological, ecological, riparian, cultural, and historic resources; important area for studies of paleoecology, mineralogy, archaeology, climate change.	X	X	X		X		X		X	X	X							X
ROV 3	Following its descent between the Sawatch and Mosquito Ranges, the Arkansas River flows through Browns Canyon in the heart of the upper Arkansas River valley. The Arkansas River valley is the northernmost valley in the Río Grande Rift system, one of the most significant rift systems in the world and one of few where the Earth's continental crust is actively moving apart. The 35 million-year-old Río Grande Rift begins in the State of Chihuahua in Mexico and extends northward through New Mexico and into Colorado to a terminus in the mountains just north of Browns Canyon.	Geology: Río Grande rift system.		X																
ROV 4	<p>The Browns Canyon area of the upper Arkansas River valley has long offered both a permanent source of water and a means of transportation for its human inhabitants. The area lies within the transition zone between the cultural traditions of the Great Basin and Plains peoples. As a transportation corridor where stable sources of subsistence resources could be found, both migrating people and permanent inhabitants left traces of their presence in this area. Ancestors of the Ute, Apache, Eastern Shoshone, and Comanche Indians are known to have traversed this dramatic landscape while hunting and gathering.</p> <p>The upper Arkansas River valley was foundational to the establishment of today's Tribal configuration. It was here that the proto-Comanche (Numuna) split into two groups, the Comanche and the Eastern Shoshone. The Buffalo-Eater Band (allies of the Utes) broke away from the Eastern Shoshone in the upper Arkansas River valley vicinity sometime between the late 1600s and early 1700s, traveling south into what is present-day New Mexico, Texas, southern Colorado, western Kansas, and the panhandle of Oklahoma.</p> <p>While most archaeological resources in the Browns Canyon area have not yet been surveyed or recorded, the story of people living in the upper Arkansas River valley is told through artifacts dating back over 10,000 years. Of the resources surveyed, there are 18 known archaeological sites within the Browns Canyon area, including 5 prehistoric open lithic sites that have been determined to be eligible for the National Register of Historic Places. Primarily seasonal camps, these sites include open campsites, culturally modified trees, wickiups, tipi rings, chipped stone manufacture and processing sites, a possible ceramic pottery kiln, and rock shelter sites that date to the Archaic Period. The sites range from early Archaic Period and possibly Paleo-Indian Period (around 8,000 to 13,000 years before present), which would make this among the earliest known sites in the region, to the Late Archaic Period to proto-historic period (around 3,000 years before present to the 19th century A.D.).</p>	<p>Native and Modern Peoples: Ancestors, Ute, Apache, Eastern Shoshone, proto-Comanche (Numuna) split, Comanche, Eastern Shoshone, and Buffalo-Eater Band; Spanish explorer Juan de Ulibarri; Chaffee County residents and visitors.</p> <p>Cultural Features: Primarily seasonal camps, open campsites, culturally modified trees, wickiups, tipi rings, chipped stone manufacture and processing sites, a possible ceramic pottery kiln, abandoned mine sites, Denver Rio Grande Railroad Bed.</p>		X					X	X	X	X	X			X			X	
ROV 5	Discovery of gold along the Arkansas River in the 1850s and the 1870s silver boom in Leadville brought an influx of people and a need for transportation. In the 1870s, stage roads carried thousands of passengers through this region every year. In the 1880s, after a multi-year legal and armed battle between rival rail	Travel and Transportation: Pre-historic and historic transportation corridor, Arkansas Stage and Rail Trail, access for recreation and ranching.											X			X	X	X		

ROV #	Proclamation 9232, Establishment of BCNM (excerpts)	Resources, Objects, and Values (ROVs)	Air and Climate	Geology & Paleontology	Soils & Watersheds	Water Resources	Vegetation	Wildland Fire	Wetlands	Aquatic Wildlife	Wildlife & Avian	Special Status Species	Cultural Resources	Tribal Concerns	Visual	Recreation	Travel	Range & Livestock	ROW & Land Use	Socio-Economics
	companies, the Denver and Río Grande Railway became the major transportation option for the region. The section of railroad bed that runs through Browns Canyon east of the Arkansas River is eligible for listing on the National Register of Historic Places. Even today, this same upper Arkansas River valley remains a major transportation corridor for Chaffee County residents and visitors, as well as an important resource for recreational anglers and boaters, and area ranchers and farmers. Local communities have proposed and conducted a feasibility study for establishing the Arkansas Stage and Rail Trail, which would serve as a testament to this travel corridor's prehistoric and historic significance.																			
ROV 6	The 1.6 billion-year-old Precambrian granodiorite batholith that constitutes the Canyon is incised by steep gulches that cut through the pink granite and metamorphic rock. Stafford Gulch provides astounding views of the unique Reef formation, a long and distinctive face of exposed rock. During the Pleistocene Epoch, glaciers covered the rugged canyons, gulches, and mountains that awe visitors today. The movement of these glaciers created unique topographical features in the river valley—including glacial cirques, flat, mesa-like terraces, and remnants of large moraines—that are not found along other major streams in the region. While shaping the topography, the glaciers also filled the valley below with masses of sediment, including the gold, silver, and semi-precious gems that fueled the mining booms of the 1800s. These gems, including the garnets that lend their name to Ruby Mountain in the northern part of the Browns Canyon area, continue to interest professional and amateur geologists.	Geology: Precambrian granodiorite batholith; steep gulches; pink granite; Stafford Gulch; reef formation; glacial cirques; mesa-like terraces; moraines; gold; silver; semi-precious gems; mining booms; and garnets. Recreation: Professional and amateur geologists.		X									X							
ROV 7	Portions of the Browns Canyon area offer a relative wealth of Pennsylvanian age geologic exposures of the Minturn formation and Belden shale that include a diverse assemblage of invertebrate fossils. These sites represent the accumulation of shell fossils in an ancient reef environment, and include remains of bivalves, brachiopods, gastropods, echinoids, nautiloids, conodonts, crinoids, bryozoans, and vertebrates including sharks and bony fish. Many of the fossil forms remain undescribed and will form the basis for future paleontological research.	Paleontology: Pennsylvanian exposures; minturn formation; belden formation; invertebrate fossils; shell fossils; ancient reef; bivalves; brachiopods; gastropods; echinoids; nautiloids; conodonts; crinoids; bryozoans; vertebrates; sharks; bony fish; future paleontological research.		X		X			X											
ROV 8	The topographic and geologic diversity of the Browns Canyon area has given rise to one of the most significant regions for biodiversity in Colorado. The forest community incorporates a transition zone, with semi-arid pinyon-juniper and mountain mahogany woodlands on the lower slopes giving way to ponderosa pine, Rocky Mountain bristlecone pine, and Douglas fir at higher elevations. Scattered pockets of aspen, willow, Rocky Mountain juniper, river birch, and narrowleaf cottonwood can be found in riparian areas. The Aspen Ridge area is also home to a significant stand of aspen. The understory is home to a variety of plant species, including blue grama grass, mountain muhly, Indian ricegrass, Arizona fescue, blue bunchgrass, prickly pear, cholla, yucca, isolated pockets of alpine bluegrass, and the endemic Brandegee's buckwheat. A stunning array of wildflowers such as the scarlet gilia and larkspur bloom here during the spring and summer. Near Ruby Mountain, imperiled plant species such as Fendler's Townsend-daisy, Fendler's false cloak-fern, livemore fiddleleaf, and the endemic Front-Range alumroot can be found. The plant community in this area has repeatedly evolved during periods of climate change since the Eocene Epoch. Geologic and climatic changes since the Precambrian have made the area an important site for research on geology and paleoecology as well as the effects of climate change, wildland fire, and other disturbances on plant and animal communities.	Vegetation Biodiversity; Forest community; semi-arid pinyon-juniper; mountain mahogany woodlands; ponderosa pine; Rocky Mountain bristlecone pine; aspen; willow; Rocky Mountain juniper; river birch; narrowleaf cottonwood riparian areas. Vegetation: Blue grama; Mountain muhly; Indian ricegrass; Arizona fescue; Blue bunchgrass; Prickly pear; Cholla; Yucca; Alpine bluegrass; Brandegee's buckwheat; Scarlet gilia; Larkspur; Fendler's Townsend-daisy; Fendler's false cloak-fern; Livemore fiddleleaf; Front-Range alumroot. Research: geology; paleoecology; effects of climate change; wildland fire; disturbances; plant and animal communities.	X	X		X	X	X	X	X	X									
ROV 9	Some of Colorado's most emblematic animal species call Browns Canyon home. Mountain lions, bighorn sheep, mule deer, bobcat, red and gray fox, American black bear, coyote, American pine marten, kangaroo rat, elk, and several species of tree and ground squirrels can all be found in the Browns Canyon area, which provides essential habitat for mammals and birds alike and attracts hunters and wildlife viewers. Raptors such as red-tailed hawks, Swainson's hawks, golden eagles, turkey vultures, and prairie falcons make their homes in the rocky cliffs and prey upon the abundance of small animals that live in this area. The area also provides habitat suitable for peregrine falcons, which have been identified for possible future reintroduction here, as well as potential habitat for the threatened Canada lynx. A stunning diversity of other bird species, including the cliff swallow, Canada jay, mourning dove, flicker, blue jay, wild turkey, great horned owl, western screech owl, and saw whet owl, attract ornithologists and bird enthusiasts alike to these remote hills.	Wildlife: Mountain lions; bighorn sheep; mule deer; bobcat; red fox; gray fox; black bear; coyote; pine marten; kangaroo rat; elk; tree and ground squirrels; canada lynx. Recreation: Hunters; wildlife viewers; bird enthusiasts. Raptors: Red-tailed hawks; Swainson's hawks; golden eagles; turkey vultures; prairie falcons; peregrine falcons. Other Avian Species: Cliff swallow; Canada (gray) jay, mourning dove; flicker; blue jay; wild turkey; great horned owl; western screech-owl; and Saw-whet owl.									X	X				X				



ROV #	Proclamation 9232, Establishment of BCNM (excerpts)	Resources, Objects, and Values (ROVs)	Air and Climate	Geology & Paleontology	Soils & Watersheds	Water Resources	Vegetation	Wildland Fire	Wetlands	Aquatic Wildlife	Wildlife & Avian	Special Status Species	Cultural Resources	Tribal Concerns	Visual	Recreation	Travel	Range & Livestock	ROW & Land Use	Socio-Economics
ROV 10	A number of reptile and amphibian species occur in the area, including the sensitive boreal toad and northern leopard frog. The Browns Canyon area represents one of the only riparian ecosystems along the Arkansas River that remains relatively undisturbed and contains an intact biotic community.	Aquatic Wildlife: Boreal toad; northern leopard frog. Riparian Resources: riparian areas.							X	X		X								
ROV 11	The protection of the Browns Canyon area will preserve its prehistoric and historic legacy and maintain its diverse array of scientific resources, ensuring that the prehistoric, historic, and scientific values remain for the benefit of all Americans. The area also provides world class river rafting and outdoor recreation opportunities, including hunting, fishing, hiking, camping, mountain biking, and horseback riding.	Recreation: river rafting, hunting, fishing, hiking, camping, mountain biking, and horseback riding.														X	X			

Following a statement of ROVs, Presidential Proclamation 9232 directs the BLM and USFS to manage the monument and to implement the purposes of this proclamation, pursuant to their respective applicable legal authorities. The remaining paragraphs of the Presidential Proclamation 9232 were analyzed with respect to resources and resource uses.

Paragraph	Proclamation 9232, Establishment of BCNM (excerpts)	Air and Climate	Geology & Paleontology	Soils & Watersheds	Water Resources	Vegetation	Wildland Fire	Wetlands	Aquatic Wildlife	Wildlife & Avian	Special Status Species	Cultural Resources	Tribal Concerns	Visual	Recreation	Travel	Range & Livestock	ROW & Land Use	Socio-Economics
17	All Federal lands and interests in lands within the boundaries described in the accompanying map are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, leasing, or other disposition under the public land laws or laws applicable to the U.S. Forest Service, including location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument.		X															X	X
18	The establishment of the monument is subject to valid existing rights. Lands and interests in lands not owned or controlled by the Federal Government within the boundaries described on the accompanying map shall be reserved as a part of the monument, and objects identified above that are situated upon those lands and interests in lands shall be part of the monument, upon acquisition of ownership or control by the Federal Government.		X												X	X		X	X
21	Except for emergency or authorized administrative purposes, motorized and mechanized vehicle use in the monument shall be allowed only on roads and trails designated for such use, consistent with the care and management of the objects identified above. After the date of this proclamation, new roads or trails may only be designated for motorized vehicle use in areas west of the Arkansas River and at the Ruby Mountain Recreation Site and then only as necessary to provide reasonable river or campground access, consistent with the applicable management plan. Forest Road 184 may be realigned or improved only if for the care and management of the objects identified above or as necessary for public safety.														X	X			X
22	Nothing in this proclamation affects or shall be deemed to preclude the Secretaries from reissuing existing authorizations or agreements for the cooperative administration of the Arkansas Headwaters Recreation Area. New or modified authorizations or agreements for such purpose may be issued, consistent with the care and management of the objects identified above. The Secretaries also may authorize and reauthorize commercial recreational services within the monument, including outfitting and guiding, consistent with the care and management of the objects identified above.														X			X	X
23	Nothing in this proclamation shall be deemed to affect the operation or use of the existing railroad corridor as a railroad right of way pursuant to valid existing rights or for recreational purposes consistent with the care and management of the objects identified above.														X	X		X	

Paragraph	Proclamation 9232, Establishment of BCNM (excerpts)	Air and Climate	Geology & Paleontology	Soils & Watersheds	Water Resources	Vegetation	Wildland Fire	Wetlands	Aquatic Wildlife	Wildlife & Avian	Special Status Species	Cultural Resources	Tribal Concerns	Visual	Recreation	Travel	Range & Livestock	ROW & Land Use	Socio-Economics
24	Nothing in this proclamation shall be deemed to enlarge or diminish the rights of any Indian Tribe. The Secretaries shall, to the maximum extent permitted by law and in consultation with Indian Tribes, ensure the protection of Indian sacred sites and traditional cultural properties in the monument and provide access by members of Indian Tribes for traditional cultural and customary uses, consistent with the American Indian Religious Freedom Act (42 U.S.C. 1996) and Executive Order 13007 of May 24, 1996 (Indian Sacred Sites).											X	X						
25	Laws, regulations, and policies followed by the BLM or the USFS in issuing and administering grazing permits or leases on lands under their jurisdiction shall continue to apply with regard to the lands in the monument, consistent with the care and management of the objects identified above.																X		X
26	This proclamation does not alter or affect the valid existing water rights of any party, including the United States. This proclamation does not reserve water as a matter of Federal law, and the inclusion of the land underlying the Arkansas River in the monument shall not be construed to reserve such a right. This proclamation does not alter or affect agreements governing the management and administration of Arkansas River flows, including the Voluntary Flow Management Program.			X	X			X	X						X				
27	Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Colorado, including its jurisdiction and authority with respect to fish and wildlife management.								X	X	X				X				
28	Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the monument shall be the dominant reservation.																	X	

In their review of the Proclamation, the BLM and USFS IDT note the following:

ROV #	BLM/USFS IDT Note or Clarification
ROV 2	The elevation range within BCNM is approximately 7,360-10,607 feet. The “3,000-foot range in elevation” may be more accurately described as a 3,250 feet elevation range.
ROV 6	There are no known glacial cirques within BCNM.
ROV 7	The reference to “belden shale” would more be more accurately stated as “belden formation.”
ROV 8	The reference to “Rocky Mountain bristlecone pine” is accurate, and it is noted there is very little bristlecone pine in BCNM. Limber pine is also an important and unique vegetation resource. The reference to “river birch” would be more accurately described as “water birch.” There is no known Brandegee's buckwheat habitat (i.e., an appropriate geologic formation) within BCNM. A known population occurs within a mile of the southwest corner of BCNM; future research is necessary to confirm its presence within the monument.
ROV 9	The reference to “red and gray fox” would be more accurately stated as “red fox and gray fox.” The reference to “American black bear” would be more accurately stated as “black bear.” The reference to “American pine marten” would be more accurately stated as “pine marten.” Canada lynx, gray jay, and blue jay are unlikely to occur in BCNM.
ROV 10	Boreal toad and northern leopard frog are unlikely to occur at BCNM.

## **Appendix F. Consultation and Coordination**

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This appendix summarizes the public outreach, consultation, and coordination efforts of the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) during the preparation of the Browns Canyon National Monument (BCNM) Resource Management Plan/Environmental Impact Statement (RMP/EIS).

### **PUBLIC INVOLVEMENT**

The public involvement process for the EIS was developed in accordance with the requirements of National Environmental Policy Act of 1969, as amended (NEPA; 42 U.S. Code [U.S.C.] 4321-4374); USFS 2012 Planning Rule; and the Council on Environmental Quality regulations implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508). The BLM is required to provide the public with opportunities to become meaningfully involved during the planning process, and specifically during the preparation and amendment of RMPs (43 CFR 1610). NEPA is a procedural act aimed at ensuring environmental information is available to the public and to public officials before decisions are made and actions are taken.

### **CONSULTATION AND COORDINATION**

In accordance with section 202 of the Federal Land Policy and Management Act (FLPMA), BLM and USFS coordinate their land use inventory, planning, and management activities with the land use planning and management programs of other Federal departments and agencies, Indian Tribes, and the States and local governments within which the lands are located, to the extent consistent with the laws governing the administration of the public lands.

### **Cooperating Agencies**

Federal regulations direct the BLM and USFS to invite eligible Federal agencies and State and local governments to participate as cooperating agencies when drafting an EIS. The BLM and the USFS worked closely with the cooperating agencies to develop alternatives and guide the analysis contained in the EIS. This process included the development of the preliminary alternatives; review of issues raised during scoping and revision of the alternatives; and reviews of the analysis contained in the EIS.

Cooperating agencies included:

- Colorado Parks and Wildlife (CPW) – Arkansas Headwaters Recreation Area (AHRA)\*
- CPW –Wildlife Managers
- Chaffee County
- Town of Buena Vista
- City of Salida
- U.S. Fish and Wildlife Service



\* CPW collaboratively manages the AHRA with the BLM. Therefore, CPW additionally participated in IDT discussions pursuant of the Cooperative Management Agreement of Recreation and Public Purposes leases within the BCNM.

## **Tribal**

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, requires Federal agencies to coordinate and consult on a government-to-government basis with sovereign Native American Tribal governments whose interests may be directly and substantially affected by activities on federally administered lands. Federal agencies consult with federally recognized Native American Tribes as directed in the National Historic Preservation Act, NEPA, BLM H-1780-1, FLPMA, and Presidential Proclamation 9232. Consultation is ongoing throughout the planning process. The following Tribes were invited to participate:

- Apache Tribe of Oklahoma
- Cheyenne and Arapaho Tribes of Oklahoma
- Cheyenne River Sioux Tribe
- Comanche Nation of Oklahoma
- Crow Creek Sioux
- Eastern Shoshone Tribe
- Jicarilla Apache Nation
- Kiowa Tribe of Oklahoma
- Northern Arapaho Tribe
- Northern Cheyenne Tribe
- Oglala Lakota Tribe
- Pawnee Nation of Oklahoma
- Rosebud Sioux Tribe
- Southern Ute Tribe
- Standing Rock Sioux Tribe
- Ute Mountain Ute Tribe
- Northern Ute Tribe

BLM and USFS also initiated consultation with the Colorado State Historic Preservation Office (SHPO), and that consultation is ongoing. Tribal consultation is intended to identify any Native American cultural values, religious beliefs, or traditional practices that could be affected by BLM actions on Federal lands.

## **LIST OF PREPARERS**

The authors and those primarily responsible for preparing the RMP/EIS include:

### *Bureau of Land Management*

---

Keith Berger	Manager - Royal Gorge Field Office
Stephanie Carter	Geology, Paleontology
Dave Gilbert	Fisheries, Hydrology, Soils, Wetlands-Riparian, Aquatic Biology
Kalem Lenard	Wilderness, Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern, Wild and Scenic Rivers (WSRs), Travel-Transportation, Recreation
Jessica Montag	Socioeconomics, Environmental Justice
Molly Purnell	Geographic Information systems
Matt Rustand	Wildlife
Amy Stillings	Socioeconomics

Linda Skinner	Recreation, Special Designations, Lands with Wilderness Characteristics
Michael Troyer	Heritage, Cultural, Tribal Consultation
Joe Vieira	National Monument RMP Project Manager
Veronica Vogan	Lands and Realty
Martin Weimer	Planner
Jeff Williams	Range

*U.S. Forest Service*

---

Ed Biery	Forest Ecology, Vegetation, Ecosystems, Geographic Information System (GIS)
John Dow	Planner
Delilah Jaworski	Socioeconomic
Catherine Kamke	Heritage, Cultural, Tribal Consultation
Ben Lara	Recreation, Wilderness, WSAs, Visual
Lisa Maestas	GIS
Steve Olson	Botany, Vegetation, Threaten and Endangered Plants
Nick Padilla	Range
Jim Pitts	District Ranger - Salida Ranger District
Angela Safranek	Range
Steve Sanchez	Hydrology, Soils, Wetlands-Riparian, WSRs
Josh Sidon	Socioeconomics
Stephanie Shively	Terrestrial, Avian, Aquatic Biology, Wildlife, Fisheries, Threaten and Endangered Wildlife
Amy Titterington	Geology, Paleontology
Andy White	Fire/Fuels

*Colorado Parks and Wildlife*

---

Rob White	Recreation
-----------	------------

*Logan Simpson*

---

Holly Bagot	Lands with Wilderness Characteristics, Lands and Realty, Livestock Grazing, Special Designations
Chris Bockey	Visual
Julie Capp	Livestock Grazing, Soils
Vicki Casteel	Technical Editor
Jeremy Call	Project Manager, Recreation, Special Designations
Kristina Kachur	Project Coordinator, Recreation, Travel
Tom Keith	Senior Reviewer

## *Appendix F. Consultation and Coordination*

---

Carson Keller	GIS
Brian Taylor	GIS Task Lead

### *ICF*

---

Lucas Bare	Resource Specialists Lead, Biological Evaluation/Biological Assessment/ Endangered Species Act
Alex Bartlett	Biology, Water/Hydrology, Wetlands-Riparian
David Ernst	Air Quality/Climate Change
Jon Hecht	Socioeconomic, Environmental Justice
Melanie Martin	Facilitator - Alternatives
Claire Munaretto	Socioeconomic, Environmental Justice
Daniel Nally	Geology/Minerals
Debra Sehi	ePlanning, Geology/Minerals
Brent Read	GIS
Alan Rabinoff	Geology/Minerals
Kristin Salamack	Biology
Nate Wagoner	Assistant Project Manager
Jenna Wheaton	ePlanning
Mikenna Wolff	ePlanning

### *Alpine Archaeological Consultants*

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Kimberly Redman	Cultural
Matt Landt	Cultural



## Appendix G. Best Management Practices Reference List

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Best management practices (BMPs) are land and resource management techniques determined to be the most effective and practical means of maximizing beneficial results and minimizing conflicts and negative environmental impacts from management actions. The Bureau of Land Management (BLM) and U.S. Forest Service (USFS) will apply BMPs to modify the operation or design of authorized uses or activities to meet the resource-specific goals and objectives of the Resource Management Plan (RMP) and protect monument resources, objects, and values (ROVs). BMPs will be applied to avoid, minimize, rectify, and reduce impacts if an evaluation of the authorization area indicates the presence of monument ROVs. To reduce or eliminate negative environmental impacts, BMPs can be applied before, during, and after activities.

The BMPs for authorizations will be identified as part of the National Environmental Policy Act (NEPA) process, through interdisciplinary analysis involving resource specialists, project proponents, government entities, landowners, or other surface management agencies. Measures selected for implementation will be identified in the Record of Decision (ROD) or decision record for those authorizations and will inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM- or USFS-administered public lands and minerals to mitigate impacts. This ensures that mitigation will lead to a reduction of environmental impacts in the implementation stage and have binding mechanisms for enforcement (Council on Environmental Quality 2011).

This appendix does not provide an exhaustive list of BMPs but a reference list of documents detailing BMPs across agencies. The BLM and USFS manuals and handbooks, as appropriate, would be applied to any activity on BLM- or USFS-administered public lands. Refer to Table 1-2 in the Planning Assessment (BLM and USFS 2018a) for an extensive list of Federal instruction memoranda, information bulletins, manuals, handbooks, and directives. At the time of action development, BLM will determine the appropriate source of BMPs and which ones to apply within the bounds of Presidential Proclamation 9232 to protect monument ROVs. Additional BMPs may be identified during an interdisciplinary process when evaluating site-specific management actions. BMPs may also be updated as new technology emerges. Application of mitigation measures and conservation actions is subject to valid existing rights and technical and economic feasibility.

The following example BMP documents may be applied to any BLM- or USFS-authorized activity:

- BLM *Colorado Public Land Health Standards* (BLM 1997)
- USFS *National Best Management Practices for Water Quality Management on National Forest System Lands* (Technical Guide FS-990a; USFS 2012)
- BLM Technical Note 450 *Protecting Night Skies and Dark Environments on BLM-administered Lands: Best Management Practices For Artificial Lighting At Night* (for future release)
- Colorado BLM Comprehensive Air Resources Protection Protocol (CARPP) (BLM 2015)

- *BLM Guidelines for a Quality Built Environment* – First Edition (BLM 2010)
- *Colorado State Forest Service Forestry Best Management Practices to Protect Water Quality in Colorado* (2010)USFS 0625 1808-STDDC *Low-Water Crossings: Geomorphic, Biological, And Engineering Design Considerations* (October 2006)
- *USFS Low-Volume Roads Engineering Field Guide* (July 2003)
- *USFS Built Environment Image Guide (BEIG)* (September 2001)

## **Appendix H. Updated Evaluation of Relevance and Importance Criteria**

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# **DRAFT**

# **Updated Evaluation of Relevance and Importance Criteria**

**Prepared by**

**U.S. Department of the Interior  
Bureau of Land Management  
Royal Gorge Field Office  
Cañon City, CO**

**July 2019**



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## **ACRONYMS AND ABBREVIATIONS**

<b>ACEC</b>	Area of critical environmental concern
<b>BCNM</b>	Browns Canyon National Monument
<b>BLM</b>	Bureau of Land Management
<b>CFR</b>	Code of Federal Regulations
<b>EIS</b>	Environmental impact statement
<b>FLPMA</b>	Federal Land Policy and Management Act
<b>IDT</b>	Interdisciplinary team
<b>MSO</b>	Mexican spotted owl
<b>N/A</b>	Not applicable
<b>R&amp;I</b>	relevant and important
<b>RGFO</b>	Royal Gorge Field Office
<b>RMP</b>	Resource Management Plan
<b>ROD</b>	Record of Decision
<b>U.S.</b>	United States
<b>U.S.C.</b>	United States Code
<b>USFS</b>	United States Department of Agriculture, Forest Service
<b>WSA</b>	Wilderness study area

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## **EXECUTIVE SUMMARY**

In accordance with Federal law (see section 1.2, “Authorities”) and as part of the planning process for the Browns Canyon National Monument Resource Management Plan and Environmental Impact Statement (BCNM RMP/EIS), the U.S. Department of the Interior, Bureau of Land Management (BLM), Royal Gorge Field Office (RGFO), reviewed the Browns Canyon Area of Critical Environmental Concern (ACEC) to determine whether it warranted further consideration as a potential ACEC. The area was nominated by one cooperating agency and the general public during National Environmental Policy Act public scoping held May 14–June 20, 2019.

Once nominated, potential ACECs are evaluated to see whether they meet the necessary relevance and importance criteria for designation, in accordance with Federal law and BLM policy (see section 2.1 “Identification of ACEC”)<sup>1</sup>. Once the Draft BCNM RMP/EIS is released, there will be an official public review period during which comments on a potential Browns Canyon ACEC will be solicited for consideration in the development of the Proposed BCNM RMP and Final EIS.

This report describes one existing and potential ACEC that was evaluated by the BLM’s Interdisciplinary Team (IDT) for the BCNM (see chapter 3, “Relevance and Importance Evaluations”): Browns Canyon ACEC (existing).

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<sup>1</sup> BLM (Bureau of Land Management). 1988. 1613—Areas of Critical Environmental Concern. Release 1–1541. September 29, 1988. Washington, DC: U.S. Department of the Interior, Bureau of Land Management.

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## **1. INTRODUCTION**

### **1.1. Browns Canyon National Monument Resource Management Plan**

The U.S. Department of the Interior (DOI), Bureau of Land Management (BLM), Rocky Mountain District, Royal Gorge Field Office (RGFO), is preparing a resource management plan and environmental impact statement (RMP/EIS) to guide management of 21,604 acres of public lands in Browns Canyon National Monument (BCNM), jointly with the USFS Pike and San Isabel National Forests. The National Environmental Policy Act (NEPA) No Action alternative is to continue to manage the Browns Canyon Area of Critical Environmental Concern (ACEC), including earlier identified relevant and important (R&I) values (11,526 Acres) in the BLM RGFO RMP and Record of Decision (ROD) (BLM 1996). The BCNM RMP/EIS, or management plan, will analyze resource, object, and value (ROV) protections, as required under Presidential Proclamation 9232 (February 2015).

### **1.2. Authorities**

The Federal Land Policy and Management Act of 1976 (FLPMA; Public Law 94-579) requires that the BLM give priority to the designation and protection of ACECs, which are defined in FLPMA, 43 U.S. Code (U.S.C.) 1702(a), and 43 Code of Federal Regulations (CFR) 1601.0-5(a) as “areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.”

### **1.3. Area of Consideration**

The analysis area for this study includes 9,755 acres of BLM-administered public lands, including both Federal surface and mineral estate in the BCNM and as designated in 1996 as the Browns Canyon ACEC.

### **1.4. ACEC Evaluation and Designation Process**

There are several steps in the process of designating ACECs. Each of these steps is described in further detail in chapter 2, “Requirements for ACEC Designation:”

- Nomination (either by the public or the BLM) of areas that may meet the relevance and importance criteria.
- Evaluation of the nominated areas to determine if they meet the criteria.
- Consideration of ACEC designation or dropping from consideration
- Designation of ACECs in the ROD approving the RMP.



## 2. REQUIREMENTS FOR ACEC DESIGNATION

### 2.1. Identification of ACEC

Per relevance and importance criteria under FLPMA, 43 U.S.C. 1712(c)(3); BLM Manual 1613, “Areas of Critical Environmental Concern;” and 43 CFR 1610.7-2; BLM staff identified, considered, and analyzed Browns Canyon current values and eligibility for designation as an ACEC, including the following:

- Potential for ACEC designation and protection management (see 43 CFR 1610.4–1 through 1610.4–9).
- Analysis of updated resource inventory data (BLM and USFS 2018) to determine whether there are areas containing resources, values, systems, processes, or hazards eligible for further consideration for designation as an ACEC under the following R&I value criteria:
  - *Relevance*. There shall be present a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or natural hazard.
  - *Importance*. The above described value, resource, system, process, or hazard shall have substantial significance and values.<sup>3</sup>

### 2.2. Special Management Attention

BLM references agency Manual 1613 in the BCNM RMP/EIS study and that

- “Management prescriptions developed during preparation of an RMP or amendment expressly *protect the important and relevant values of an area from the potential effects of actions permitted by the RMP.*”
- A management prescription is considered to be special if it is unique to the area involved, and includes terms and conditions specifically designed to protect the values occurring within the area.
- Regarding the management of a potential ACEC, it may not be necessary to develop a range of management alternatives.
- R&I value management prescriptions may not vary significantly across alternatives.
- A potential ACEC was recommended for designation and alternatives in the Draft RMP all address ACEC designation. Designation is based on whether or not a potential ACEC requires special management attention in the selected plan alternative (i.e., preferred alternative).

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<sup>3</sup> Importance generally requires qualities of special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to human life or property.

## **2.3. Nomination of ACECs**

ACECs can be nominated at any time, but are only designated through the BLM’s land use planning process. For the BCNM, the Browns Canyon ACEC was nominated by one cooperating agency and members of the public during public scoping (May 14–June 20, 2019), and in response to BLM publication of the BCNM “Planning Criteria Report – Preliminary Alternatives and Basis for Analysis” (BLM and USFS 2019).

### **2.3.1. Browns Canyon ACEC External Nomination (2019)**

The BLM requested public input during NEPA public scoping regarding the Browns Canyon ACEC Planning Issue:

- Is special management under the Browns Canyon ACEC designation warranted for the recognized R&I values of the ACEC designation (1996) or does monument establishment (2018) under Proclamation 9232 provide sufficient protection for R&I values?
- Are there any additional lands that should be considered for ACEC status in the BCNM?

External public re-nomination of the Browns Canyon ACEC was received. One commenter stated that high use recreation poses threats to the undeveloped and outstanding opportunities for solitude and primitive and unconfined recreation characteristics in the Wilderness Study Area (WSA) and ACEC. Other commenters requested that the entirety of the Browns Canyon ACEC be maintained as well as all other existing special designations within the Monument.

Commenters re-nominated the Browns Canyon ACEC based on BLM obligations regarding ACECs under FLPMA. These commenters stated that ACEC protections must remain in place in conjunction with the duties under the Proclamation.

Specifically, a scoping submission signed by multiple parties, including one cooperating agency, stated that a critical aspect of the statutory language cited above is FLPMA’s requirement that BLM “give priority” to ACEC designation and protection [43 U.S.C. § 1712(c)(3)]. The commenters noted that overlapping designations are common in BLM land-use planning, including for National Conservation Lands, including:

- Perry Mesa and Larry Canyon ACECs in the Agua Fria National Monument.
- High Rock Canyon and Soldiers Meadows ACECs in the Black Rock Desert – High Rock Canyon Emigrant Trails National Conservation Area (NCA).
- Cow Creek ACEC in the Upper Missouri River Breaks National Monument.
- Appelton-Whittell ACEC in the Las Cinegas NCA.
- Scotch Creek and Oregon Gulch ACECs in the Cascade-Siskiyou National Monument.
- Vekol Valley Grassland ACEC in the Sonoran Desert National Monument.
- Watermelon Mountains ACEC in the Ironwood Forest National Monument.
- San Rafael RNA, San Pedro River RNA and St. David Cienega RNA ACECs in the San Pedro Riparian NCA.

Commenters nominating the Browns Canyon ACEC suggested the following goals, objectives, and management actions:

- Maintain the Browns Canyon ACEC and manage to the same standard defined in the Royal Gorge RMP.
- Analyze impacts from recreational activities (i.e., camping, campfires, and recreation) on areas with special designations, including impacts from dogs and horses.

Another commenter asked the agencies to consider that there should be no need for special management and ACEC designation given the Monument designation provides sufficient protection of resources, objects, and values (ROVs).

### 2.3.2. Browns Canyon ACEC Internal Review

The BLM RMD-RGFO IDT reviewed 1996 relevance and importance values of BLM-managed public lands (surface acres) within the planning area in 2019 based on criteria detailed in 2.4 and 2.5, to determine whether any should be considered for designation as ACECs. The RGFO IDT followed the guidance in BLM Manual 1613 and evaluated the following:

- Existing Browns Canyon ACEC
- Areas recommended for ACEC consideration (external and internal nominations)
- Areas identified through inventory and monitoring
- Adjacent designations of other Federal and State agencies

BCNM was again evaluated to determine whether they met the relevance and importance criteria described in sections 2.5 and 2.6 below. A nomination must meet one or more of the relevance and importance criteria to be considered a potential ACEC.

## 2.4. Relevance

BLM re-evaluated whether Browns Canyon ACEC remains *relevant* (see BLM Manual 1613). Specifically, does Browns Canyon still satisfy the relevance criteria and have one or more of the features presented in Table 2.1. Refer to section 3.2 for the results of the relevance and importance evaluation.

**Table 2.1** ACEC Relevant Criteria

No.	Criteria
1	A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans)
2	A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity)
3	A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities that are terrestrial, aquatic, or riparian; or rare geological features).
4	Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action might meet the relevance criteria if it is determined through the resource management planning process to have become part of a natural process.

## 2.5. Importance

BLM re-evaluated whether Browns Canyon ACEC remains *important*, i.e., do the values, resource, system, process, or hazard under consideration has substantial significance and value.



Specifically, the BLM asked if Browns Canyon ACEC meets one or more of the following criteria presented in Table 2.2. Refer to section 3.2 for the results of the relevance and importance evaluation.

**Table 2.2 ACEC Importance Criteria**

No.	Criteria
1	Has significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern (such as a natural hazard that is a significant threat to life or property), especially compared to any similar resource.
2	Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
3	Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of the Federal Land Policy and Management Act.
4	Has qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.
5	Poses a significant threat to human life and safety or to property.

## **2.6. Consideration of Potential ACECs**

The need for special management and the resulting effects from applying such management are assessed in the environmental consequences section of the Draft RMP/EIS. Potential ACECs are considered in alternatives A and C. The preferred alternative in the Draft RMP identifies no designation of the Browns Canyon ACEC.

## **2.7. Comments on ACEC Recommendation**

The BLM requests public input regarding ACEC nominations throughout development of the BCNM RMP/EIS. A notice of any areas proposed for ACEC designation will be published in the Federal Register along with the notice of availability requesting public comments on the Draft BCNM RMP-EIS.

The evaluation of potential ACECs is available for public review concurrently with the DEIS. During the public comment period for the Draft RMP, the public also has the opportunity to comment on any aspect of the IDT's ACEC analysis. The BLM will consider these comments when preparing the Proposed RMP/Final EIS and will make appropriate changes before the Proposed RMP/Final EIS is released. Once the Proposed RMP is released, the public will again have the opportunity to review the ACEC recommendation and analysis, and protest during a 30-day protest period, after which the ROD for the BCNM will be prepared and the Final RMP/EIS approved.

## **2.8. Designation of ACECs**

In order to be designated as an ACEC, an area must require special management attention to prevent irreparable damage to the R&I values. The need for special management attention may vary by alternative in the Draft RMP/EIS, depending upon what other types of management schemes or resource allocations are being considered for that alternative.

Special management attention refers to management prescriptions designed expressly to protect or manage the R&I values of an area that would not be necessary and prescribed if the R&I values did not exist. These prescriptions are unique to the area involved, outside of standard or routine

practices, usually more detailed than prescriptions contained within the plan for other areas, and establish the area's management implementation priority. If the BLM's analysis determines that special management attention is required, the area may be designated as an ACEC. The actual designation will occur when the ROD that approves the BCNM is signed.

### 3. RELEVANCE AND IMPORTANCE EVALUATIONS

#### 3.1. Introduction

This chapter summarizes the ACEC nominated by the public and evaluated by the BLM RGFO IDT, the values assessed, whether the relevance and importance criteria were met, and the justification for those determinations. The map in this chapter shows the Browns Canyon ACEC “analysis unit” for the identified values.

The size and management prescriptions for the Browns Canyon ACEC are equal in alternatives A and B in the Draft RMP to address the goals and objectives of each alternative and the values being protected (see BLM Manual 1613, 1613.2.22.B.1 and B.2; Proclamation 9232).

##### 3.1.1. Browns Canyon ACEC

**Nomination:** External, existing

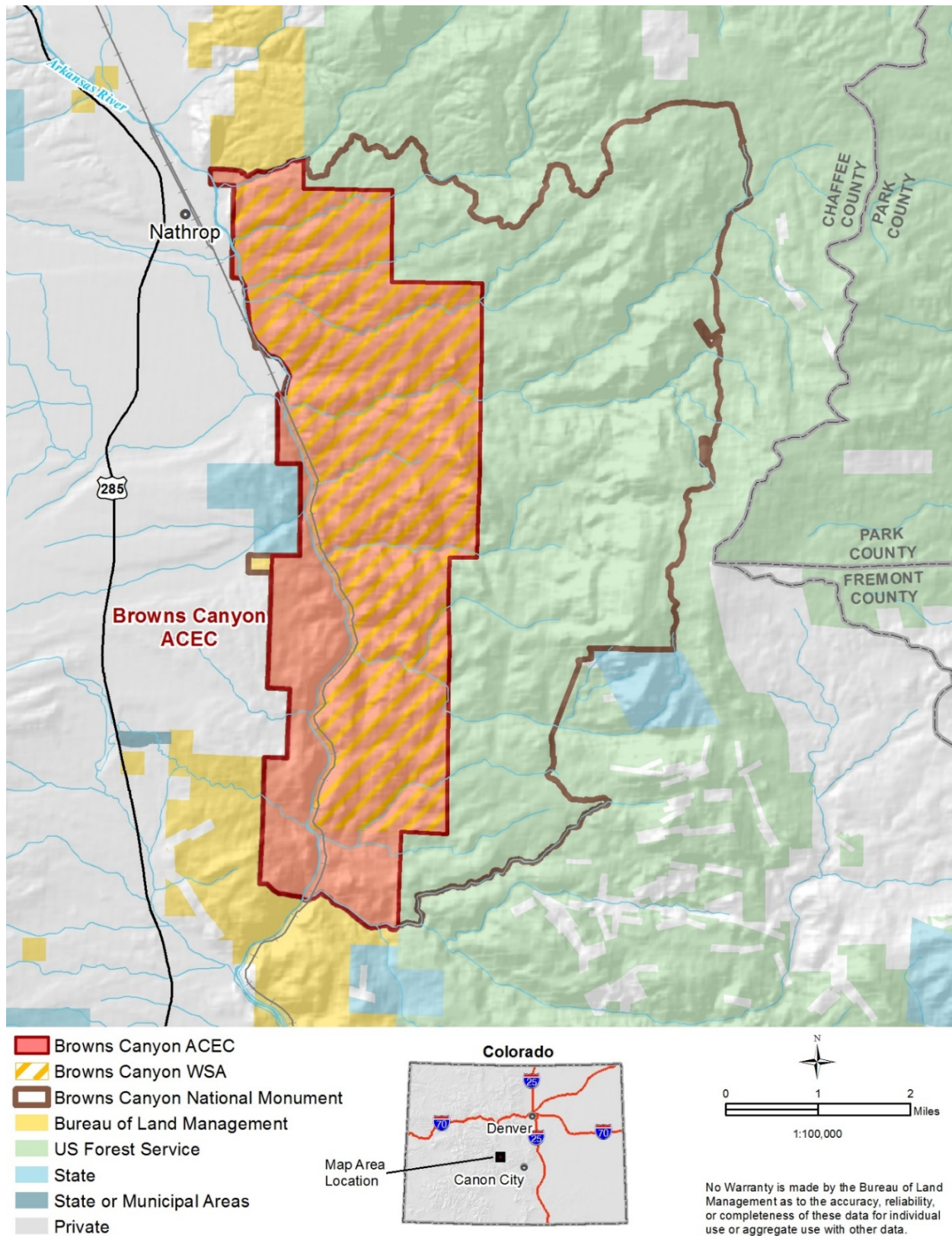
**Approximate BLM acreage within BCNM:** 9,755 acres

**Description:**

The Browns Canyon ACEC extends along the Arkansas River corridor between the Arkansas Headwaters Recreation Area (AHRA) Ruby Mountain campground and north of the AHRA Stone Bridge recreation site. The existing ACEC is between the Town of Buena Vista and City of Salida, CO, and encompasses both the river and uplands (Figure 3.1). It is north of and contiguous with the BLM Eastern Colorado RMP/EIS (ECRMP 2015) Arkansas River Corridor Zone 1.

Regionally significant scenic, wildlife, flora, cultural and historic values have been managed according to their R&I ACEC values by BLM since 1996. The Browns Canyon ACEC provides habitat for bighorn sheep, golden eagle, and nesting raptors. It has sensitive archeological resources found eligible by BLM under the National Historic Preservation Act, has a high potential for discovery of unrecorded cultural resources, and contains traditional religious sites important to the Southern Ute Indian Tribe, Northern Cheyenne Tribe, and other Tribes (Table 3.1). The Arkansas River through the BCNM ACEC is a designated Gold Medal fishery. The area also contains populations of Arkansas canyon stickleaf (*Nuttallia densa*).

The R&I values for the Browns Canyon ACEC (1996) were incorporated and expanded upon in Presidential Proclamation 9232 establishing the BCNM (see Table 3.1). The BLM ACECs are designed to protect areas including the R&I values as a part of public land management. There has been no change in scenic, fauna, cultural and flora values since the BLM’s 1993 study and 1996 ACEC designation, with the exception of updated resource inventory and modeling, particularly of archeological resources, and areas important to Native Americans since 1996. The BCNM RMP/EIS range of alternatives compares environmental impacts for designating (alternatives A and B) and not designating (Alternative C) Browns Canyon ACEC.



**Figure 3.1 Browns Canyon ACEC within BCNM**



## 3.2. Evaluation

BLM reviewed the agency decision for Browns Canyon ACEC as described in the Royal Gorge Resource Area ROD (BLM 1996). Table 3.1 presents BLM's updated ACEC relevance and importance evaluation for the Browns Canyon ACEC. It further compares the ACEC relevance and importance evaluation to the ROVs identified in the Presidential Proclamation 9232 (Appendix E). The comparison shows that the Browns Canyon ACEC relevance and importance evaluation was incorporated and expanded upon in Presidential Proclamation 9232 establishing the BCNM.

**Table 3.1 Relevance and Importance Evaluation for Browns Canyon ACEC and Proclamation 9232**

No.	ACEC Criteria	Comparable Proclamation 9232 ROVs (Appendix E)
1	<p>A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans)?</p> <p><u>Yes.</u></p> <ul style="list-style-type: none"> <li>Browns Canyon is a repository for sensitive archeological resources found eligible by BLM under the National Historic Preservation Act, has a high potential for discovery of unrecorded cultural resources, and contains traditional religious sites important to the Southern Ute Indian Tribe, Northern Cheyenne Tribe, and other Tribes.</li> <li>Significant Tribal values including rare and sensitive archeological resources and religious and cultural resources important to the Southern Ute Tribe, Northern Ute Tribe, Ute Mountain Ute Tribe, Rosebud Sioux Tribe, and Northern Cheyenne Tribe are present. Resources are rare, very sensitive and exist under a growing risk of damage from changing recreational use.</li> <li>Traditional cultural landscapes in the BCNM have been identified by the Southern Ute Tribe and are considered rare and exemplary, as documented through Tribal consultation (2016-2019). Scenic values are unique and spectacular, including a wild steep cliff river terrain.</li> <li>The Browns Canyon landscape is exemplary for white water rafters on the Arkansas River.</li> <li>The monument's spectacular scenery and rugged setting are core to a thriving outdoor recreation industry and an attraction to hundreds of thousands of visitors over the last three years.</li> </ul>	<p>ROV 1: Scenic and Cultural Resources</p> <p>Colorful rock outcroppings; stunning mountain vistas; Browns Canyon; landscape; canyons; rivers; backcountry forests; habitation; historical resources; native peoples; recent settlers; and mining communities.</p> <p>ROV 4: Native and Modern Peoples, Cultural Features</p> <p>Ancestors; Ute, Apache, Eastern Shoshone, proto-Comanche (Numuma) split, Comanche, and Buffalo-Eater Band; Spanish explorer Juan de Ulibarri; Chaffee County residents and visitors; primarily seasonal camps; open campsites; culturally modified trees; wickiups; tipi rings; chipped stone manufacture and processing sites; a possible ceramic pottery kiln; abandoned mine sites; and Denver Rio Grande Railroad Bed.</p>
2	<p>A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity)?</p> <p><u>Yes.</u></p> <ul style="list-style-type: none"> <li>Browns Canyon provides significant and exemplary undisturbed year-round range and lambing habitat for bighorn sheep, habitat for golden eagle, nesting habitat for rare raptors, and important elk and mule deer winter range in an area experiencing rapid urban and transportation growth.</li> </ul>	<p>ROV 2: Geology and Scientific Resources</p> <p>3,000-foot range in elevation; biodiversity; significant head of bighorn sheep; scientifically significant geological, ecological, riparian, cultural, and historic resources; important area for studies of paleoecology, mineralogy, archaeology, and climate change.</p> <p>ROV 9: Wildlife and Raptors</p>

*Appendix H. Updated Evaluation of Relevance and Importance Criteria*

No.	ACEC Criteria	Comparable Proclamation 9232 ROVs (Appendix E)
	<ul style="list-style-type: none"> <li>The Arkansas River is designated Gold Medal fishery. The area also contains populations of Arkansas canyon stickleaf (<i>Nuttallia densa</i>).</li> <li>Within the EPA Level III Southern Rockies ecosystem, Browns Canyon is core to maintaining species diversity in the Arkansas Headwaters.</li> </ul>	<p>Mountain lions; bighorn sheep; mule deer; bobcat; red fox; gray fox; black bear; coyote; pine marten; kangaroo rat; elk; tree and ground squirrels; red-tailed hawks; Swainson's hawks; golden eagles; turkey vultures; prairie falcons; peregrine falcons; and other avian species.</p> <p>ROV 10: Aquatic and Riparian Boreal toad; northern leopard frog; and riparian areas.</p>
3	<p>A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities that are terrestrial, aquatic, or riparian; or rare geological features).</p> <p><u>Yes.</u></p> <ul style="list-style-type: none"> <li>The Browns Canyon cottonwood riparian gallery forest and the very high functioning arid hydrological systems exhibit some of the highest value dry perennial and ephemeral drainages in the Arkansas Headwaters watershed.</li> <li>These values play a higher importance in ecological systems in 2019, given temperature and drought trends documented by BLM and USFS (2018).</li> <li>Little Cottonwood Creek, Cottonwood Creek, Spring Gulch, Sawmill Gulch, and Green Gulch all provide rare and exemplary springs and perennial flows in an extremely arid landscape.</li> <li>These hydrologic features along with rugged elephantine granitic outcrops provide significant, core and exemplary undisturbed habitat for bighorn sheep, golden eagle, nesting raptors, and other wildlife.</li> <li>Browns Canyon also provides important elk and mule deer seasonal migration corridors and winter range in an area experiencing extremely rapid urban and transportation growth.</li> <li>The Arkansas River is designated Gold Medal fishery. The area also contains populations of Arkansas canyon stickleaf (<i>Nuttallia densa</i>).</li> </ul>	<p>ROVs 3 and 6: Geology Rio Grande rift system; steep gulches; reef formation; and mesa-like terraces.</p> <p>ROV 8: Vegetation Biodiversity Forest community; semi-arid pinyon-juniper; mountain mahogany woodlands; ponderosa pine; Rocky Mountain bristlecone pine; aspen; willow; Rocky Mountain juniper; river birch; narrowleaf cottonwood riparian areas; botanical biodiversity; and research opportunities.</p> <p>(See ROVs 1, 2, and 9 above).</p>
4	<p>Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action might meet the relevance criteria if it is determined through the resource management planning process to have become part of a natural process.</p> <p><u>No</u></p> <ul style="list-style-type: none"> <li>Browns Canyon natural hazards include areas subject to avalanche, dangerous flooding, landslides, unstable soils, and dangerous cliffs, but these not considered rare or exemplary.</li> </ul>	<p>Not identified in Proclamation 9232.</p>

BCNM's scenic values, fauna and supporting habitat (Rocky Mountain bighorn sheep, golden eagle, American peregrine falcon, and trout fishery), cultural and Tribal resources, and floral values (*Nuttallia densa*), all warrant protection to satisfy statewide and national concerns and to carry out BLM mandates under FLPMA. The Browns Canyon ACEC has provided these protections since 1996. All R&I values identified by BLM for protections in 1996 are equally present in 2019 and warrant protections consistent with and equal to protections afforded under FLPMA, including through an ACEC designation.

## 4. LIST OF PREPARERS

Table 4.1 below lists the BLM staff members who contributed to the preparation of this document.

**Table 4.1 List of BLM Staff Preparers**

<b>Name</b>	<b>Title</b>	<b>Area(s) of Expertise</b>
Joseph Vieira	Land Use Planner – Project Manager	Planning, vegetation, biological and physical sciences, ACECs, Native American concerns.
Michael Troyer	Archeologist	Cultural resources, Native American concerns
Matt Rustand	Wildlife Biologist	Terrestrial wildlife (includes migratory birds), special status species (federally threatened, endangered, proposed, and BLM sensitive species)
Dave Gilbert	Fisheries Biologist	Aquatic wildlife, wetlands and riparian resources
Stephanie Carter	Geologist	Geology/minerals, solid minerals (locatable, salable, solid leasables), abandoned mine lands, hazardous materials, and public safety
Melissa Smeins	Geologist	Geology/minerals, paleontological resources, coal, fluid minerals (geothermal), solid leasables, abandoned mine lands, hazardous materials, and public safety
Jeff Williams	Rangeland Management Specialist	Vegetation, livestock grazing
Kalem Lenard	Recreation Manager	Visual resources, lands proposed for protection of wilderness characteristics, travel and transportation management
Linda Skinner	Recreation Manager	Recreation
Veronica Vogel	Realty Specialist	Land tenure, rights-of-way and land use authorizations, and withdrawals and classifications
Marie Lawrence	Technical Writer-Editor	Writing, editing, and associated tasks; land use planning, biological sciences
Molly Purnell	GIS Specialist	GIS data management, map-making, and related tasks



## **5. REFERENCES**

- Bureau of Land Management (BLM). 1996. *Royal Gorge Resource Area Record of Decision and Approved Resource Management Plan*. BLM Cañon City District. May.
- \_\_\_\_\_. 2019. *Draft Eastern Colorado Resource Management Plan & Environmental Impact Statement*. Royal Gorge Field Office. June.
- Bureau of Land Management (BLM) and U.S. Forest Service (USFS). 2018. *Browns Canyon National Monument Management Plan – Environmental Impact Statement Planning Assessment*. February 2018.
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## **Appendix I. Wild and Scenic River Study**

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# **DRAFT Wild and Scenic River Study Browns Canyon National Monument**

**Prepared by  
U.S. Department of the Interior  
Bureau of Land Management  
Royal Gorge Field Office  
Cañon City, CO**

**July 2019**

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# **1. OVERVIEW OF WILD & SCENIC RIVER STUDY PROCESS**

## **1.1 Introduction**

This study references, is based on, and adopts Bureau of Land Management (BLM) Final Wild and Scenic River Eligibility Report for the Royal Gorge Field Office (BLM 2015) and U.S. Forest Service (USFS) Pike and San Isabel National Forest Comanche and Cimarron Grasslands (PSICC) Existing Conditions and Trends: Wild and Scenic river (WSR) (USFS 2015) in accordance with the Wild and Scenic Rivers Act of 1968 (WSR Act) and Bureau of Land Management Manual 6400 (BLM 2012).

In this study, the BLM and USFS do as follows:

- Complete due diligence and provide draft WSR eligibility determinations for the Browns Canyon National Monument (BCNM or monument), including reference to BLM WSR study (BLM 2015).
- Present new joint agency interdisciplinary team (IDT) analysis (2019) of river-connected tributary stream segments in the monument.
- Document IDT characterization and evaluation of any outstandingly remarkable values (ORVs), as required per guidelines and process for public land use planning (Figure 1.1).
- Adopt BLM recreational eligibility and suitability determinations (BLM 2015) for Arkansas River Segment 2 (refer to Table 2.4 later in this document) under the WSR Act. Present IDT analysis of upland connecting stream tributaries and ORVs not studied in 2015.
- Compare protections afforded under potential WSR designation (tentative recreational classification) and protections afforded under BCNM designation (Proclamation 9232).

BLM requested public comments on WSR eligibility and suitability as part of public scoping May 14–June 20, 2019, for the Browns Canyon National Monument Resource Management Plan and Environmental Impact Statement (RMP/EIS). Comments scoped are summarized in section 2.8 of this report.

The BLM and USFS present these draft WSR eligibility and suitability determinations for public review as part of the draft BCNM RMP/EIS. Final WSR determinations will be completed as part of the proposed RMP (proposed EIS) if streams are found to be eligible.

## **1.2 Eligibility Phase**

The evaluation of a river for potential inclusion in the National Wild and Scenic Rivers System (NWSRS) follows a three-step process: (1) determination of eligibility, (2) tentative classification (wild, scenic, or recreational), and (3) determination of suitability (BLM Handbook 6400, 3.1).

BLM and USFS accordingly evaluated BCNM river and stream segment eligibility for potential inclusion in the NWSRS by applying criteria for its free-flowing nature, with stream segment adjacent land area, and whether upland streams or drainages possess one or more ORVs.

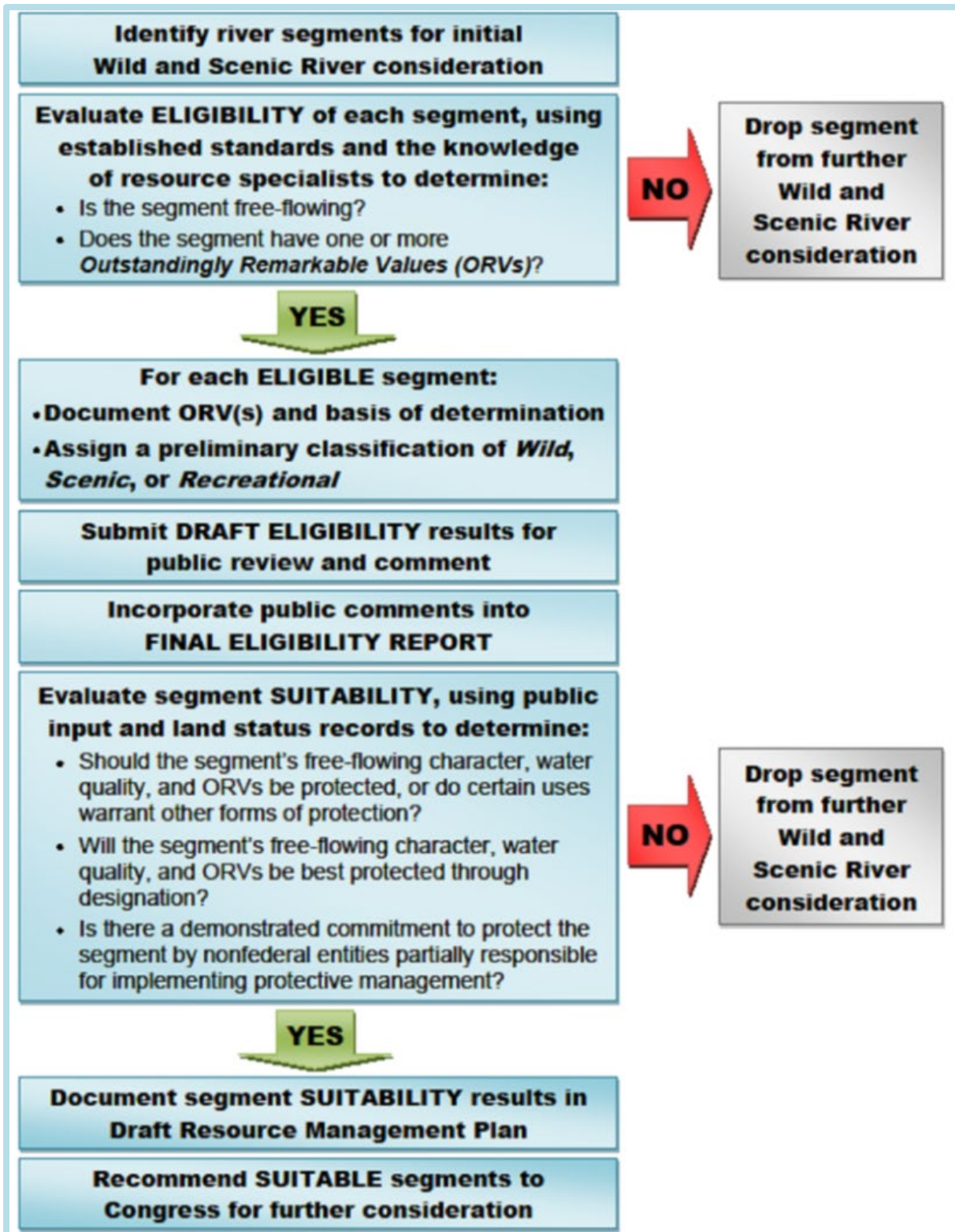


Figure 1.1 Wild and Scenic River Evaluation Process

### 1.2.1 River and Stream Identification

BLM and USFS identified Arkansas River Segment 2 (BLM 2015) and upland streams and drainages as shown in Figure 1.2 in accordance with the following guidance:

- *To identify the beginning and ending points of the study river, consider the entire river system including the interrelationship between tributaries and the main stem and their associated ecosystems (BLM Handbook 6400).*
- *A river study area extends the length of the identified river segment and includes the river area and its immediate environment, and it includes (or totals) an average of no more than 320 acres per mile from the ordinary high water mark on both sides of the river (BLM 2015).*

For this BCNM WSR study, the BLM and USFS IDT assumed a preliminary boundary of 0.25 mile from the ordinary high water mark on both sides of the river.

### 1.2.2 Tentative Classification

Per BLM Manual 6400, if the eligibility study determines segments meet ORV criteria, the agencies would assign a tentative classification and establish management measures needed to ensure appropriate protection of the values supporting the eligibility and classification determinations.

Specifically,

*[t]here are three classes for rivers designated under the WSR Act: wild, scenic, and recreational. Classes are based on the type and degree of human development and access associated with the river and adjacent lands at the time of the eligibility determination. The classification assigned during the eligibility phase is tentative. The final classification is determined by Congress, along with designation of a river segment as part of the NWSRS (BLM 2015).*

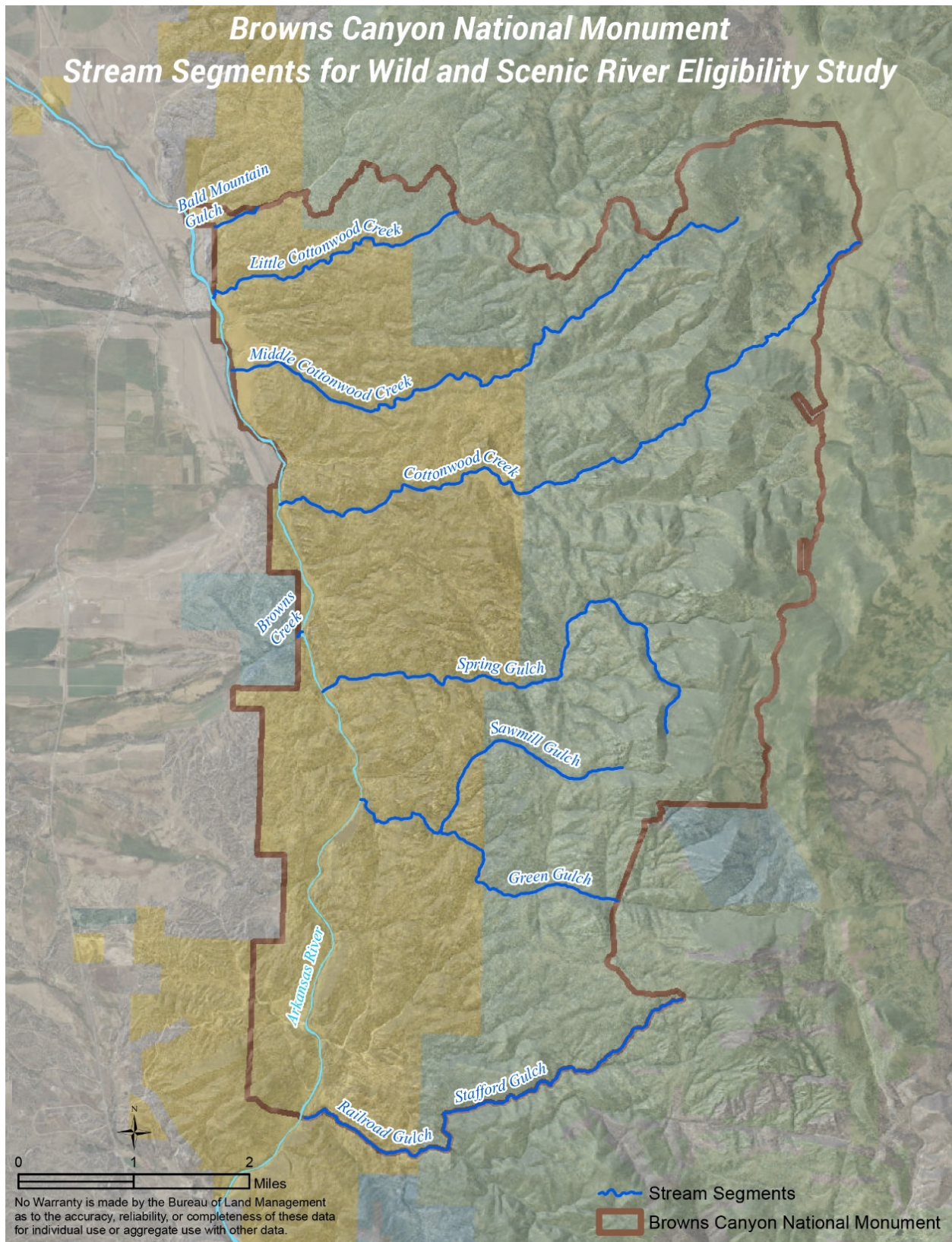
Table 1.1 describes the criteria used by the BLM and USFS IDT to classify river and stream study segments in the Browns Canyon National Monument.

### 1.2.3 Protective Management

BLM and USFS manage river segments determined to be eligible under the WSR Act, affording interim protective management until a suitability study is completed. As stated in BLM Manual 6400, with respect to eligibility criteria and protective management, the BLM's policy is to protect any ORVs identified in the eligibility determination process to assure a decision on suitability can be made.

Once a stream is determined to be eligible, the BLM is required to use its broad discretionary authority to not significantly impact river-related values or make decisions that might lead the BLM to determine that a stream is no longer eligible. It is the BLM's policy to manage and protect the free-flowing character, tentative classification, and identified ORVs of eligible rivers according to the decisions in the associated RMP. This protection occurs at the point of eligibility determination, so as not to adversely constrain the suitability assessment or subsequent recommendation to Congress (BLM 2015).





**Figure 1.2 Browns Canyon National Monument Wild and Scenic River Eligibility and Suitability Study**



**Table 1.1 Criteria for Wild and Scenic River Classification**

Attribute	Wild	Scenic	Recreational
Water Resource Development	Free of impoundment	Free of impoundment	Some existing impoundment or diversion. The existence of low dams, diversions, or other modifications of the waterway are acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline Development	Essentially primitive. Little or no evidence of human activity. The presence of a few inconspicuous structures, particularly those of historic or cultural value, is acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production, or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Accessibility	Generally inaccessible except by trail. No roads, railroads or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the river area is acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable.
Water Quality	Meets or exceeds Federal criteria for federally approved state standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming), except where exceeded by natural conditions.	No criteria prescribed by the WSR Act. The Federal Water Pollution Control Act Amendments of 1972 made it a national goal that all waters of the United States be fishable and swimmable, so rivers are not precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable Federal and State laws.	No criteria prescribed by the WSR Act. The Federal Water Pollution Control Act Amendments of 1972 made it a national goal that all waters of the United States be fishable and swimmable, so rivers are not precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable Federal and State laws.

## **1.3 Suitability Phase**

The BLM and USFS cannot administratively designate a stream as included in the NWSRS by means of a study or a planning decision. Only Congress can designate a WSR. The BLM and USFS are required only to complete a suitability study determining whether eligible river segments are suitable for inclusion in the NWSRS according to the criteria given in the WSR Act. If a river segment is not determined to be eligible, no suitability analysis is completed for that segment.

In some instances, the Secretary of the Interior may designate a WSR when the governor of a state, under certain conditions, petitions for a river to be designated. Members of Congress will ultimately choose the legislative language if any suitable segments are presented to them.

Water-protection strategies and measures to meet the purposes of the WSR Act will be the responsibility of Congress if any legislation is proposed. Rivers found not suitable would be dropped from further consideration and managed according to the objectives outlined in the RMP.

BLM and USFS did not conduct the suitability phase for the streams in the BCNM, as the agencies concluded the Arkansas River Segment 2–connected streams were not eligible. See the eligibility methodology description and in-depth analysis in sections 2 and 3, respectively.

## **2. ELIGIBILITY REVIEW**

### **2.1 Introduction**

For this WSR eligibility study, 14 streams (16 stream segments and drainages) within the BCNM were identified as crossing BLM and USFS lands. Eligibility for the Arkansas River is not considered in this review, as an in-depth analysis was completed for the BLM’s Wild and Scenic Eligibility Report (BLM 2015).

An in-depth analysis was conducted only for BCNM streams and drainages under BLM and USFS management that have at least 0.25 miles of surface. The IDT reviewed monument streams and drainages having less than 0.25 miles of flow to ensure that none of these short segments have river-related values that merit more intensive evaluation.

### **2.2 Identification of Potentially Eligible Rivers**

This study references and is based on rivers and streams identified in the following sources:

- USFS Pike and San Isabel National Forest, Existing Conditions and Trends: Wild and Scenic Rivers (USFS 2015).
- BLM ECRMP WSR eligibility report (BLM 2015) including comment from public, other Federal agencies, the State of Colorado, and local governments.
- BLM and USFS Planning Assessment Report for the Browns Canyon National Monument (BLM and USFS 2018).
- Professional specialist knowledge within the BLM and USFS.

Section 3 lists and describes the river segment, streams, and stream segments considered in this study. Those that have more than 0.25 miles of surface flow or are administered by the BLM or USFS for more than 0.25 miles are listed in Table 2.1. Section 3 provides a detailed review of rivers and streams that were found to be both free flowing and have ORVs.

**Table 2.1 BCNM Rivers, Streams, and Gulches Administered by the BLM and USFS with Greater than 0.25 Miles of Surface Flow**

Stream	Total Length (miles)	Flow Regime (miles)	Origin	Free flowing?	ORVs?	Determination
Arkansas River – Segment 2 (BLM 2015)	7.1	Perennial	Snowmelt, storm, groundwater, spring fed	Yes	Yes, fisheries, geology, scenic, wildlife	Eligible
Bald Mountain Gulch (upper)	0.25	Perennial: 0.25	Spring-fed	Yes	None	Not Eligible
Bald Mountain Gulch (lower)	0.36	Ephemeral: 0.36	Spring-fed	No	None	Not Eligible
Little Cottonwood Creek (USFS)	0.58	Perennial: 0.39 Intermittent: 0.19	Snowmelt	Yes	Potential: scenic, cultural	Not Eligible
Little Cottonwood Creek (BLM)	1.90	Perennial: 1.90	Spring-fed, snow melt, rainfall	Yes	Potential: scenic, riparian botany, Tribal value	Not Eligible
Chalk Creek	.05	Perennial	Spring-fed, snowmelt, rainfall	Yes	No	Not Eligible
Unnamed Gulch ½ mile South of Little Cottonwood	2.08	Perennial: 0.30 Ephemeral: 1.78	Spring-fed, snow melt, rainfall	Yes	Potential: geologic, scenic	Not Eligible
Middle Cottonwood Creek	5.30	Perennial: 0.40 Ephemeral: 4.90	Spring-fed, snow melt, rainfall	Yes	Potential: scenic	Not Eligible
Cottonwood Creek (Upper in Bassam Park)	5.74	Perennial: 0.80 Ephemeral: 4.44	Spring-fed, snow melt, rainfall	Yes	Potential: scenic, cultural, Tribal value	Not Eligible
Cottonwood Creek (lower)	5.74	Perennial: 0.50 Ephemeral: 4.44	Spring-fed, snow melt, rainfall	Yes	Potential: scenic, cultural,	Not Eligible
Browns Creek	0.05	Perennial: 0.05	Spring-fed, snow melt, rainfall	Yes	No	Not Eligible
Spring Gulch	4.40	Perennial: 0.50 Intermittent: 3.90	Spring-fed	Yes	Potential: scenic, riparian	Not Eligible
Sawmill Gulch	2.40	Perennial: 0.17 Ephemeral: 2.23	Spring-fed, snow melt, rainfall	Yes	Potential: scenic,	Not Eligible
Green Gulch	1.36	Perennial: 0.62 Intermittent: 0.19 Ephemeral: 0.55	Spring-fed, snow melt, rainfall	Yes	Potential: scenic, riparian	Not Eligible

Stream	Total Length (miles)	Flow Regime (miles)	Origin	Free flowing?	ORVs?	Determination
Stafford Gulch	4.00	Intermittent: 0.50 Ephemeral: 3.50	Spring-fed, snow melt, rainfall	Yes	Potential: wildlife, geologic, scenic, historical,	Not Eligible
Railroad Gulch	1.46	Perennial: 1.36 Intermittent: 0.10	Spring-fed, snow melt, rainfall	Yes	Potential: geologic, scenic, cultural-historical, wildlife	Not Eligible
Gas Creek	.16	Perennial	Spring-fed	Yes	No	Not Eligible

## 2.3 Determination of Free-flowing Status

The WSR Act, section 15(b), defines free flowing as follows:

*“Free-flowing”, as applied to any river or section of a river, means existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic rivers system shall not automatically bar its consideration for such inclusion: Provided, That this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the national wild and scenic rivers system.*

All the stream and river segments reviewed by the IDT for this report were determined to be free flowing.

## 2.4 Identification of Outstandingly Remarkable Values

For a river to be eligible for inclusion in the NWSRS, it must possess one or more ORVs. To be determined outstandingly remarkable, resources should be river-related and at least regional in significance. Rare, unique, or exemplary river-related resources are considered. The criteria to determine eligibility are described in sections 2.4.1 to 2.4.8 below (from BLM Manual 6400, Chapter 3, section 3.1).

### 2.4.1 Scenery

The landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features and/or attractions. The BLM’s visual resource inventory handbook H-8410-1 (BLM 1986) may be used in assessing visual quality and in evaluating the effect of development on scenic values. The rating area must be scenic quality “A” as defined in the handbook. When analyzing scenic values, additional factors may be considered, such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed. Scenery and visual attractions may be highly diverse along most of the river or river segment.



### **2.4.2 Recreation**

Recreational opportunities within the subject river corridor and upland streams and gulches are, or have the potential to be, popular enough to attract visitors from throughout or beyond the region of comparison or are unique or rare within the region. River-related opportunities include, but are not limited to, sightseeing, interpretation, wildlife observation, camping, photography, hiking, fishing, hunting, and boating. Upland stream and gulch opportunities include hiking, horseback riding, and camping. Such a recreational opportunity may be an ORV without the underlying recreational resource being an ORV (e.g., fishing may be an ORV without the fish species being an ORV). The river may provide settings for national or regional use or competitive events.

### **2.4.3 Geology**

The river area contains one or more examples of a geologic feature, process, or phenomenon that is unique or rare within the region of comparison. The feature(s) may be in an unusually active stage of development, represent a “textbook” example, and/or represent a unique or rare combination of geologic features (erosional, volcanic, glacial, or other geologic features).

### **2.4.4 Fish**

Fish values include either indigenous fish populations or habitat or a combination of these river-related conditions.

#### ***Populations***

The river is a nationally or regionally important producer of indigenous resident and/or anadromous fish species. Of particular significance is the presence of wild stocks and/or Federal- or State-listed or candidate, threatened, endangered, or BLM sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination that it is an ORV.

#### ***Habitat***

The river provides exceptionally high-quality habitat for fish species indigenous to the region of comparison. Of particular significance is habitat for wild stocks and/or Federal- or State-listed or candidate, threatened, endangered, or BLM sensitive species. Diversity of habitat is an important consideration and could, in itself, lead to a determination that it is an ORV.

### **2.4.5 Wildlife**

Wildlife values include either terrestrial or aquatic wildlife populations or habitat, or a combination of these.

#### ***Populations***

The river, or area within the river corridor, contains nationally or regionally important populations of indigenous wildlife species dependent on the river environment. Of particular significance are species considered to be unique to the area and/or populations of Federal- or

State-listed or candidate, threatened, endangered, or BLM sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination that it is an ORV.

### ***Habitat***

The river, or area within the river corridor, provides exceptionally high quality habitat for wildlife of national or regional significance and/or may provide unique habitat or a critical link in habitat conditions for Federal- or State-listed or candidate, threatened, endangered, or BLM sensitive species. Contiguous habitat conditions are such that the biological needs of the species are met. Diversity of habitat is an important consideration and could, in itself, lead to a determination that it is an ORV.

To apply the BLM manual and USFS criteria for wildlife habitat to the BCNM planning area, the BLM used the following:

- To be considered as a potential ORV, the habitat must be clearly river-related. The focus of the analysis is wildlife use of the riparian zone associated with the stream.
- The wildlife habitat must be of sufficient acreage and quality to play a major role in the life stages of the wildlife populations that use the riparian habitat.

To apply the BLM manual and USFS criteria for wildlife species to the BCNM planning area, the agencies used the following:

- The wildlife species in question must make significant and recurring use of the stream and its associated riparian habitats.
- Occasional use of the stream corridor by wildlife species within the river corridor would not qualify, even if those species are sensitive, threatened, or endangered.
- The stream in question must support regionally significant populations of wildlife.

## **2.4.6 Historical**

The river, or area within the river corridor, has scientific value or contains a rare or outstanding example of a district, site, building, or structure that is associated with an event, person, or distinctive style. Likely candidates include sites that are eligible for the National Register of Historic Places at the national level or have been designated a national historic landmark by the Secretary of the Interior.

## **2.4.7 Cultural**

The river, or area within the river corridor, contains rare or outstanding examples of historic or prehistoric locations of human activity, occupation, or use, including locations of traditional cultural or religious importance to specified social and/or cultural groups. Likely candidates might include a unique plant procurement site of contemporary significance.

## **2.4.8 Other Values**

Although no specific national evaluation guidelines have been developed for the “other similar values” category, assessments of additional river-related values consistent with the foregoing guidance may be developed as part of the eligibility process, including, but not limited to,

hydrological and paleontological resources or scientific study opportunities. By way of example, the evaluation guidelines below describe possible river-related botanical resources.

### ***Botany***

The area within the river corridor contains riparian communities that are ranked critically imperiled by state-based natural heritage programs. Alternatively, the river contains exemplary examples, in terms of health, resilience, species diversity, and age diversity, of more common riparian communities. The river corridor may also contain exemplary and rare types of ecological refugia (e.g., palm oases) or vegetation habitats (e.g., hanging gardens or rare soil types) that support river-related species. The river may also contain river-related plant species that are listed as threatened or endangered by the U.S. Fish and Wildlife Service or appear on the BLM's sensitive species list.

To apply the BLM manual and USFS criteria for botany to the BCNM planning area, the agencies used all of the following:

- To be considered as a potential ORV, the plant species or plant associations must be clearly river-related. Plants and plant communities must be associated with the riparian zone associated with a stream channel. Plants and plant communities that are typically found in upland habitats will not be considered, even if representatives of those plants and plant communities happen to occur within stream corridors.
- The plant or plant community must be ranked by the Colorado Natural Heritage Program (CNHP) as critically imperiled or imperiled at the global or national level. These rankings are labeled G1, G2, N1, or N2 in reports published by the CNHP. Alternatively, the plant species or plant association must be ranked by CNHP as an "A" (excellent) occurrence of a vulnerable (G3 or N3) plant species or plant community (CNHP 2007).
- Excellent or good (A- or B-ranked) occurrences of plant species or plant communities that CNHP identifies as "apparently secure" (G4, N4) or secure (G5, N5) will not qualify alone as outstandingly remarkable values; however, such occurrences may be included in the eligibility report as further documentation of botanical values found in a stream corridor that has already been identified as eligible based upon the criteria described above (CNHP 2007).

## **2.5 Regions of Comparison**

To be determined outstandingly remarkable, a river-related value must be regionally significant. The BLM and USFS IDT evaluated streams and drainages within the monument and compared them within a region of comparison, referencing the EPA Level III Southern Rockies Ecoregion<sup>4</sup> and USGS Arkansas Headwaters (HUC 11020001)<sup>5</sup>. See section 2.4 for discussions of rare and exemplary criteria evaluated for regional significance for identifying BCNM potential outstandingly remarkable values (ORVs).

Each resource was compared by the IDT to other such resources within the region of comparison. The IDT considered the exemplary, rare, or unique qualities of each resource in

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<sup>4</sup> <https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states>

<sup>5</sup> <https://water.usgs.gov/lookup/getwatershed?11020001>

order to determine regional (or national) significance. Those river segments, and specifically upland drainages portrayed in Figure 1.2, deemed to have values but insufficient ORVs were dropped from further consideration.

## **2.6 Determination of Outstandingly Remarkable Values**

This study found potential ORVs for 11 free-flowing stream segments (Table 2.1). These segments were further evaluated for eligibility, emphasizing regional comparisons. Section 3.0 describes the river-related values that were analyzed by IDT specialists for each stream segment.

## **2.7 Tentative Classification**

For a WSR study, a tentative classification of wild, scenic, or recreational is determined for all eligible rivers and segments. Tentative classifications are based on the type and degree of human development associated with the river and adjacent land as they are at the time of the evaluation. The four key elements are as follows:

- Water resource development
- Shoreline development
- Accessibility
- Water quality

Eligible rivers are classified as wild, scenic, or recreational on the basis of human activities. A wild river is one that is free of impoundments, with shorelines or watersheds essentially primitive, and with unpolluted waters. A scenic river may have some development, and may be accessible in places by roads. A recreational river is a river or segment of river accessible by road or railroad. It may have more extensive development along its shoreline, and it may have undergone some impoundment or diversion in the past (see Table 1.1).

## **2.8 Eligibility of Rivers, Streams, and Segments**

The BCNM IDT references the BLM Royal Gorge Field Office finding that 7.1 miles of Arkansas River Segment 2 within the BCNM are eligible for inclusion in the NWSRS (BLM 2015). Segments with surface flow were the major focus of this study.

The additional BCNM stream segments and drainages studied in this report form parts of upland, arid, montane ecosystems that support monument ecological and other values and derive from naturally occurring aquifer discharges, seasonal melting from snow and ice, and normal precipitation.

However, based on the reasoning that values, though outstanding, are not outstandingly remarkable in a regional context, the IDT determined that no BCNM stream segments and drainages are eligible under the WSR Act (Table 2.2).

Specifically, several stream segments and drainages do not contain regular and predictable flows. They are intermittent, seasonal, interrupted, and primarily ephemeral, lasting only a few days in the spring in wet years in direct response to precipitation, and only flow during flash floods in normal water years. Further discussion of these segments can be found in section 3.2.



**Table 2.2 Eligible Rivers and Segments in the BCNM (BLM-administered Lands and Related Waters Only)**

Watercourse and Segment Description	Map No. (see Appendix F)	Segment Length <sup>1</sup>	Total River Miles	ORVs	Tentative Classification
Arkansas River Segment 2	Map 2	7.1	7.1	Potential: recreation, scenery, wildlife, botany, fish, cultural	Recreational

<sup>1</sup> Free-flowing BLM river miles (approximate)

Table 2.3 below lists the members of the BLM and USFS IDT and their areas of expertise.

**Table 2.3 Members of the Browns Canyon National Monument BLM and USFS IDT**

Name	Occupation	Areas of Expertise
<b>Core IDT</b>		
Joseph Vieira	Land Use Planner -Project Manager	Monument resources, objects, and values (ROVs); water resources, soil resources, riparian & wetlands, terrestrial vegetation, Tribal values, visual resources
John Dow	Forest Planner	Monument resources, objects, and values, terrestrial vegetation, climate change, scenic values
Steve Sanchez	Soil, Water Program Lead	Soil resources, water resources, watersheds, riparian and wetland resources
Michael Troyer	Archeologist	Cultural resources, Native American concerns
Stephanie Shively	Wildlife Biologist	Terrestrial wildlife (includes migratory birds), special status species (federally threatened, endangered, proposed, and BLM sensitive species)
Ben Lara	Recreation Manager	Recreation, visual resources, lands proposed for protection of wilderness characteristics, travel and transportation management
Jeff Williams	Rangeland Management Specialist	Vegetation, livestock grazing
Kalem Lenard	Assistant Field Manager	Recreation, visual resources, lands proposed for protection of wilderness characteristics, travel and transportation management
Steve Olson	Botanist	Sensitive species, T&E, vegetation
Ed Biery	Forest GIS	Terrestrial vegetation
<b>Extended IDT</b>		
Matt Rustand	Wildlife Biologist	Terrestrial wildlife (includes migratory birds), special status species (federally threatened, endangered, proposed, and BLM sensitive species)
Dave Gilbert	Fisheries Biologist	Aquatic wildlife, wetlands and riparian resources
Andy White	Natural Resource Specialist	Wildland fire ecology and management

Name	Occupation	Areas of Expertise
Stephanie Carter	Geologist	Geology/minerals, solid minerals (locatable, salable, solid leasables), abandoned mine lands, hazardous materials, and public safety
Melissa Smeins	Geologist	Geology/minerals, paleontological resources, coal, fluid minerals (oil and gas, coal bed methane and geothermal), solid minerals, abandoned mine lands, hazardous materials, and public safety
Amy Titterington	Geologist	Geology/minerals, paleontological resources, coal, fluid minerals (oil and gas, coal bed methane and geothermal), solid minerals, abandoned mine lands, hazardous materials, and public safety
Catherine Kamke	Archeologist	Cultural resources, Native American concerns
Angela Safranek	Rangeland Management Specialist	Vegetation, livestock grazing, invasive species
Linda Skinner	Recreation Manager	Recreation, visual resources, lands proposed for protection of wilderness characteristics, travel and transportation management
Marie Lawrence	Technical Writer-Editor	Writing, editing, and associated tasks

Table 2.4 shows the data sources that were reviewed in order to validate rivers and streams within the BCNM for the eligibility analysis. Only rivers and streams where the BLM and USFS administers more than 0.25 miles within the BCNM underwent further analysis.

**Table 2.4 Data Sources for the Browns Canyon National Monument Wild and Scenic River Eligibility Analysis**

River	Segment Description	Total River Miles	Recommended Classification	Outstandingly Remarkable Values
Arkansas River <sup>1</sup>	From Buena Vista to the Town of Salida (1982/1993)	29	W	S,R,G,F,W <sup>2</sup>
Arkansas River <sup>3</sup>	Fisherman's Bridge access to Stone Bridge access	Not specifically listed	Did not address	Did not address

<sup>1</sup> Source: Nationwide Rivers Inventory (NPS 2014)

<sup>2</sup> S = scenery; R = recreation; G = geology; F = fish; W = wildlife

<sup>3</sup> Source: National Whitewater Inventory (American Whitewater 2015)

## 2.9 Public Scoping

The public was asked to comment on wild and scenic river eligibility and suitability in the Browns Canyon National Monument through a notice of intent in the Federal Register on May 14, 2019. Comments were accepted through June 20, 2019.

One commenter stated that there is no need for Federal action to manage the river in a considerably different way than it is currently managed. Another commenter was opposed to

revoking existing waterpower/reservoir withdrawals in order to protect the wild and scenic values of the entire Arkansas River from Leadville to Pueblo Reservoir.

Other commenters suggested that recommendations to Congress regarding the Arkansas River Segment 2 wild and scenic designation would jeopardize an existing voluntary agreement and endanger the recreation, scenery, wildlife, botany, and fish ORVs. It was further stated the Arkansas River is heavily used, is mostly next to a highway, and the water conveyed within the channel is part of the monument. These commenters thought the Arkansas River should be classified as recreational due to decades of past recreational use.

Another commenter stated that there is no beneficial reason to designate this reach of the Arkansas River as a wild and scenic river due to the fact that the proclamation states that the water conveyed within the channel is not a part of the monument.

A different commenter requested consideration and determination of suitability for Segment 2 of the Arkansas River, as that would apply additional protection that would extend well beyond the monument boundary, since Segment 2 includes sections of the river both upstream and downstream of the monument. Commenters did not provide public comments on the connecting streams shown in Figure 1.1.

### 3. IN-DEPTH ANALYSIS

#### 3.1 Streams Not Analyzed: Less than 0.25 Miles of Surface Flow

The Browns Canyon National Monument includes portions of the Arkansas River and encompasses three watersheds with perennial streams and, specifically, many short segments of streams with surface flow (Figure 1.2). A total of 14 unique streams and drainages were analyzed within the planning area. The IDT reviewed the entire list of streams for possible ORVs and focused the analysis on segments that were 0.25 miles long or longer.

Table 3.1 lists the segments in the study area that were less than 0.25 miles and thus not included in the in-depth analysis.

**Table 3.1 Stream Segments Less than 0.25 Miles in the BCNM**

Stream or Segment	Length (Miles)
Little Cottonwood Creek (USFS; intermittent)	0.19
Chalk Creek	0.10
Browns Creek	0.05

#### 3.2 Analysis of Eligible River Segments

##### 3.2.1 Arkansas River Segment 2

###### *Location of River Segment*

Segment 2: Buena Vista to Salida

### ***Tentative Classification, Free-flowing Determination, and Outstandingly Remarkable Values***

This study references, is based on, and adopts BLM's tentative classification and WSR eligible and suitable determinations for Segment 2 of the Arkansas River as recreational (BLM 2015).

The study also adopts BLM's description of ORVs and determination for Segment 2 of the Arkansas River (BLM 2015).

## **3.3 Analysis of Streams and Stream Segments**

### **3.3.1 Location of Stream Segments**

The BLM and USFS evaluated the following BCNM streams (creeks) and drainages (gulches) confluent and contributing to Arkansas River Segment 2 (BLM 2015), Chaffee County, Colorado, for wild and scenic river eligibility:

- Little Cottonwood Creek (Figure 3.1)
- Middle Cottonwood Creek (Figure 3.2, 3.3, and 3.4)
- Cottonwood Creek (Figure 3.2, 3.3, and 3.4)
- Spring Gulch (Figure 3.5 and 3.6)
- Sawmill Gulch and Green Gulch (Figure 3.7)
- Stafford Gulch (Figure 3.8)
- Railroad Gulch (Figure 3.9)

### **3.3.2 Evaluation of Segment Character, Level of Development, and Free-flowing Determination**

BLM and USFS present evaluation of the free-flowing character of BCNM stream and drainages confluent and contributing to Arkansas River Segment 2 (BLM 2015) for Chaffee County, Colorado, as follows:

- Little Cottonwood Creek (tables 3.2 and 3.4)
- Middle Cottonwood Creek (tables 3.5 and 3.7)
- Cottonwood Creek (tables 3.8 and 3.10)
- Spring Gulch, Sawmill Gulch, and Green Gulch (tables 3.11 and 3.13)
- Stafford Gulch and Railroad Gulch (tables 3.14 and 3.16)

## **3.4 Analysis of Outstandingly Remarkable Values**

The ORV analysis, descriptions, and findings for all BCNM creeks and gulches listed and evaluated in this report adopt and are based on the BCNM's Planning Assessment Report (BLM and USFS 2018; available online<sup>6</sup>) and ecosystem, resource conditions, and trends as described in that report (see sections "2.1 Resources" and "2.2 Resource Uses"), with additional

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<sup>6</sup> <https://go.usa.gov/xn2eC>; "Documents and Reports"



descriptions in this report for Spring Gulch, Sawmill Gulch, Green Gulch, Stafford Gulch, and Railroad Gulch. Following is a list of streams and stream segments analyzed for ORVs:

- Little Cottonwood Creek (Table 3.3)
- Middle Cottonwood Creek (Table 3.6)
- Cottonwood Creek (Table 3.9)
- Spring Gulch, Sawmill Gulch, and Green Gulch (Table 3.12)
- Stafford Gulch and Railroad Gulch (Table 3.15)

### **3.4.1 Little Cottonwood Creek**

Figure 3.1 shows the location of Little Cottonwood Creek in Browns Canyon National Monument. Table 3.2 gives the tentative classification and determination for Little Cottonwood Creek.

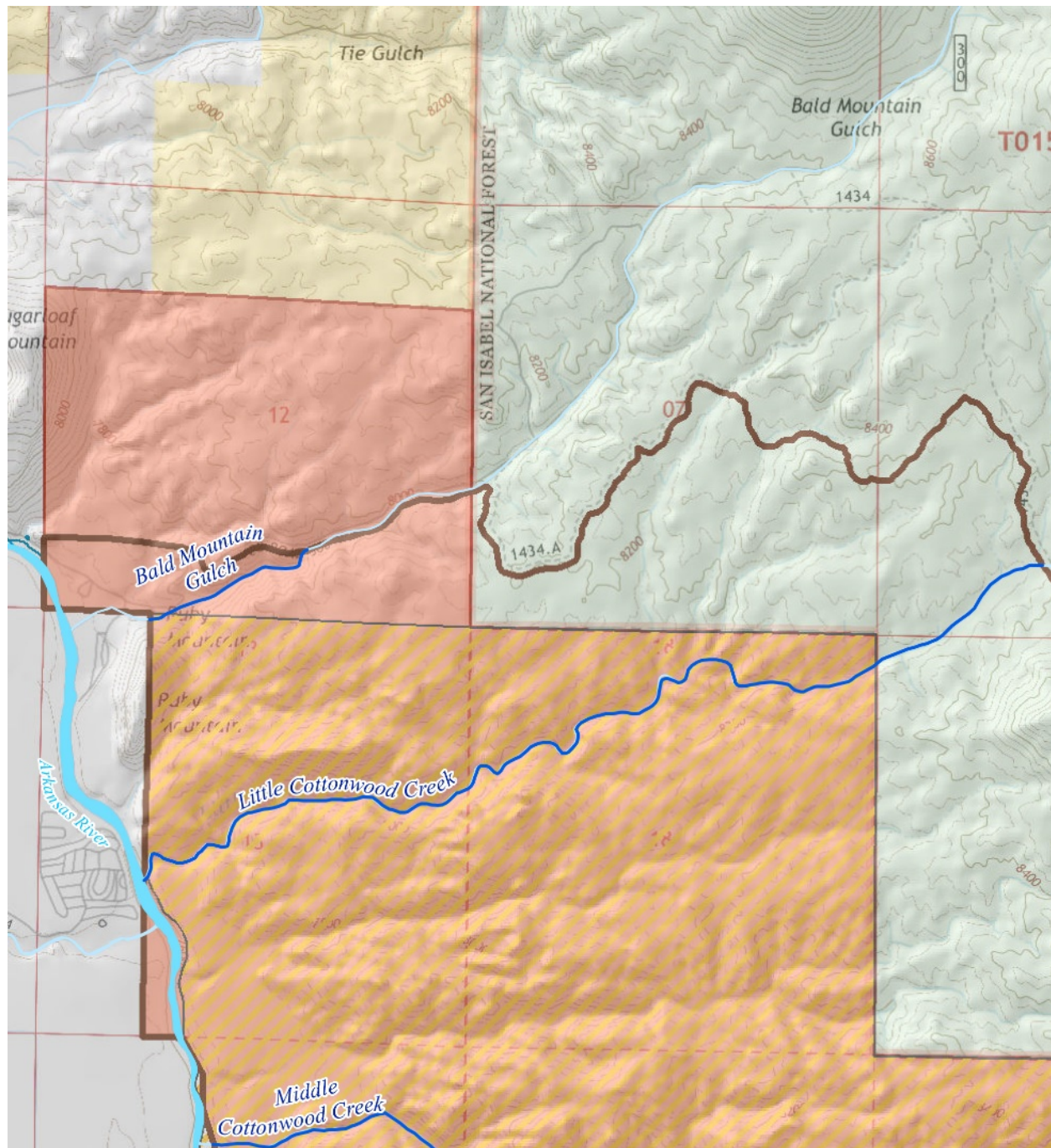
#### ***Little Cottonwood Creek Segment Outstandingly Remarkable Values***

Table 3.3 presents in-depth analysis and descriptions of potential ORVs for Little Cottonwood Creek.

#### ***Differences between the Previous and Present Studies***

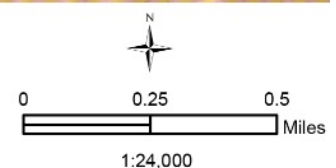
In the 1992 BLM study, the IDT did not find the Little Cottonwood Creek stream and segments meeting a regional standard for outstandingly remarkable values.

In this 2019 study, the BLM and USFS IDT cites and references the BCNM Planning Assessment Report (BLM and USFS 2018) and updates the 2016–2018 riparian properly functioning condition inventory for stream criteria and WSR eligibility consideration. The BLM and USFS IDT also references outstanding scenery, including views of varied geological outcrops and the Collegiate Peaks from Little Cottonwood Creek, as valued under Presidential Proclamation 9232. Differences between 1992 and the present study also include rapid human population growth and development in Chaffee County, Colorado, and the Southern Rockies region during the 28-year period since the last WSR characterization.



## Bald Mountain Gulch and Little Cottonwood Creek

- Stream Segments
- Browns Canyon National Monument
- Browns Canyon Wilderness Study Area
- Browns Canyon ACEC
- Bureau of Land Management
- US Forest Service
- Private



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**Figure 3.1 Little Cottonwood Creek, Browns Canyon National Monument, Chaffee County, CO**

**Table 3.2 Evaluation of Segment Character, Level of Development, and Free-flowing Determination for the Little Cottonwood Creek Segment**

Reasoning		
There are no roads and very little evidence of human encroachment or shoreline development on Little Cottonwood Creek downstream from USFS Boundary to BLM Ruby-Arkansas River bench trail. High water quality, if low-flow; aquatic life and properly functioning Cottonwood riparian ecological system and conditions on BLM free-flowing length.		
Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM	BLM/USFS Total	There are no impoundments in this segment.
1.90	2.48	

**Table 3.3 Analysis and Descriptions of Potential ORVs for the Little Cottonwood Creek Segment**

River-related Value	Analysis
Scenery	<ul style="list-style-type: none"> <li>Little Cottonwood Creek runs through visually dramatic, rugged, and colorful elephantine rock granite rock outcrops.</li> <li>The area offers scenic quality “A” views from ridge and drainage both as foreground to steep montane terrain and a complex, seasonally contrasting mosaic of Cottonwood Gallery, Pinon-Juniper, Mixed Conifer, and Aspen Ridge vegetation.</li> <li>The dramatic and spectacular monument backdrop from Little Cottonwood Creek, and Collegiate Peaks (Colorado Fourteeners) scenery are breathtaking to residents and visitors.</li> <li>There are some views from the area Little Cottonwood Creek that afford minor visual intrusion of residential development and historic mining at Ruby Mountain. But terrain and colorful scenery overall is outstanding year round, and remarkable regionally, as lower elevation montane Pinon-Juniper woodland and elephantine rock granite outcrops when compared with similar scenery.</li> <li>Comparable rock outcrop landscape and low-flow perennial drainages within the Southern Rockies region, such as north at Buena Vista, northwest in Roaring Fork Valley, south to New Mexico experience greater wildland-urban residential development visual intrusions, when compared with Little Cottonwood Creek.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>These northern end Browns Canyon National Monument geologic formations and their surface expression are not unique or remarkable within the Arkansas River basin or the Southern Rockies in regional comparison.</li> <li>For reference note their expression that extends northward outside of the monument extends northward, river east, past Buena Vista, CO.</li> <li>However, it is the surface expression of Rocky Mountain geologic formations, as noted in Proclamation 9232, specifically the Proterozoic intrusion geology and elephantine rock granite outcrops within BCNM pinyon juniper woodland that provide outstanding scenic value for people exploring the Little Cottonwood Creek area.</li> </ul>
Botany	<ul style="list-style-type: none"> <li>Properly functioning riparian vegetation communities including cottonwood, alder, and botanically rich understory vegetation exist at Little Cottonwood Creek.</li> <li>Botany includes culturally valued plant species significant to Southern Ute Indian Tribe and dependent on perennial flow.</li> </ul>

River-related Value	Analysis
	<ul style="list-style-type: none"> <li>• CNHP layers show that Little Cottonwood Creek (sections 13 and 18) and Cottonwood Creek (sections 28, 29, and 30) have been identified as high quality communities of narrowleaf cottonwood-Rocky Mountain juniper riparian woodlands (EO rank: A).</li> <li>• This vegetation type is ranked G2G3/S3 by NatureServe (2108).</li> <li>• Plant communities similar to those of Little Cottonwood Creek are present within the EPA Level III Southern Rockies ecoregion and are not found remarkable.</li> </ul>
Wildlife & Fisheries	<ul style="list-style-type: none"> <li>• Wildlife species common to the area can be found utilizing Little Cottonwood Creek such as Mule deer, pinon mouse, bobcat, Lewis's woodpecker, and Western bluebird. Occasionally moose have been documented in the area.</li> <li>• There are no threatened, endangered, or proposed wildlife or fish species known to reside in Little Cottonwood Creek.</li> <li>• Currently there are eleven documented Sensitive species which have been found within Browns Canyon National Monument throughout all seasons of the year.</li> <li>• Habitat for these Sensitive species is not necessarily unique to the Little Cottonwood Creek and can be found along the Arkansas River from Leadville to Canon City.</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>• Little Cottonwood Creek area within the Browns Canyon Wilderness Study Area (WSA) provides outstanding opportunities for solitude close to Buena Vista, CO.</li> <li>• There are no developed trails except where drainage forms part of Ruby-Arkansas River Bench access trail.</li> <li>• Cross-country travel is rare and difficult due to the rugged topography and hot arid woodland conditions.</li> <li>• Some hunting occurs, traversing the drainage bottom</li> <li>• Properly functioning riparian wetland and aquatic system support good birding and wildlife viewing opportunities but low-flow limit any fishery and angling does not occur.</li> <li>• Drainage offers wilderness quality experiential outcomes.</li> <li>• Any recreating visitors to Little Cottonwood Creek are drawn by lure of remoteness, spectacular national monument scenery of snowcapped 14,000+ Collegiate Peaks, history, and opportunities for wildlife viewing.</li> <li>• But visitors are not likely attracted by the free-flowing stretches within the stream segment. Creek is low flow.</li> <li>• Undeveloped geology, scenery, and rugged exploration opportunities exist.</li> </ul>

In its analysis, the BLM and USFS IDT found the following river related values:

- Unique elephantine rock granite outcrop landscape features and Collegiate Peaks scenic views, including low visual intrusion of human development.
- Hydrologic contribution and connectivity of Little Cottonwood Creek, including as a lower flow stream segment sustaining important natural subsurface flow into Arkansas River Segment 2. Segment value is particularly relevant under increased drought intensity and duration and reduced snow packs documented since 1992.
- Unique properly functioning and thriving cottonwood gallery riparian botanical communities on BLM-administered segments of Little Cottonwood Creek, supporting functioning ecosystem services, including hydrologic water quality regulation for the Arkansas River in 2019.



- The Little Cottonwood segment also provides outstanding but little explored opportunities for science, research, and Tribal cultural uses associated with wild plants and minerals.

However, based on regional comparisons to the EPA Level III Southern Rockies Ecoregion, Arkansas Headwaters, and adjacent San Luis Valley basins, the BLM and USFS IDT determined that Little Cottonwood Creek does not present ORVs under the WSR Act.

Table 3.4 summarizes the previous (BLM 1996) and current study's findings for the Little Cottonwood Creek segment.

**Table 3.4 Wild and Scenic River Study Findings for the Little Cottonwood Creek Segment**

Study	Eligible?	Suitable?	Classification
1992	No	No	Unclassified
2012	No	No	Unclassified
2019	No	No	Unclassified

### 3.4.2 Middle Cottonwood Creek

Table 3.5 shows the BLM's and USFS's tentative classification and determination for Middle Cottonwood Creek.

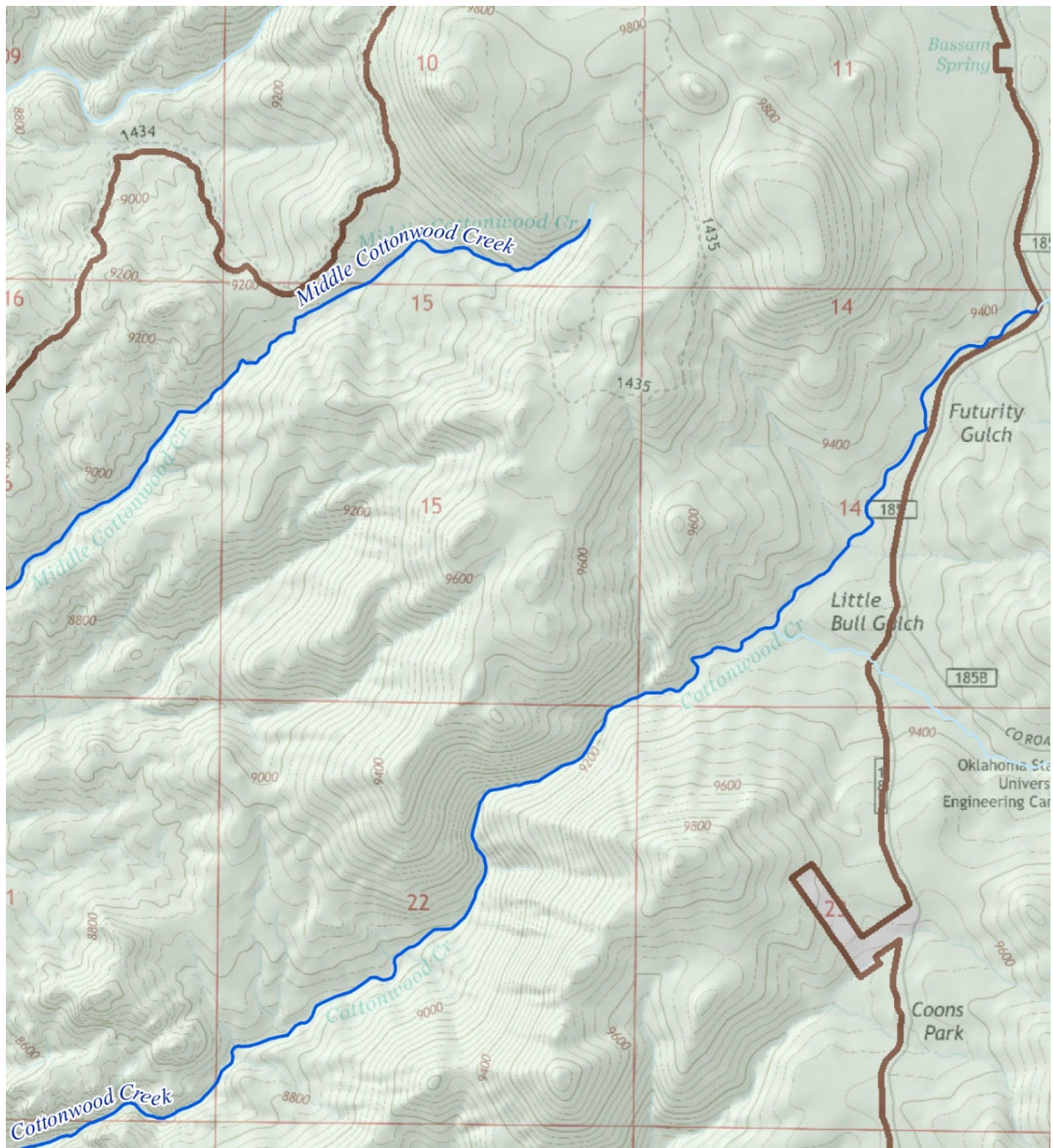
**Table 3.5 Evaluation of Segment Character, Level of Development, and Free-flowing Determination for the Middle Cottonwood Creek Segment**

Reasoning		
There are historic roads and trails, but and very little evidence of human encroachment upstream from Ruby-Arkansas River bench trail access to USFS boundary.		
Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM (Perennial)	BLM/USFS Total	There are no impoundments in this segment.
0.4	5.3	

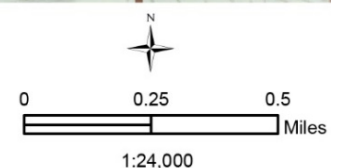
Figures 3.2 through 3.4 show the location of Middle Cottonwood Creek and Cottonwood Creek in Browns Canyon National Monument.

#### ***Middle Cottonwood Creek Segment Outstandingly Remarkable Values***

Table 3.6 presents in-depth analysis and descriptions of potential ORVs for Middle Cottonwood Creek.



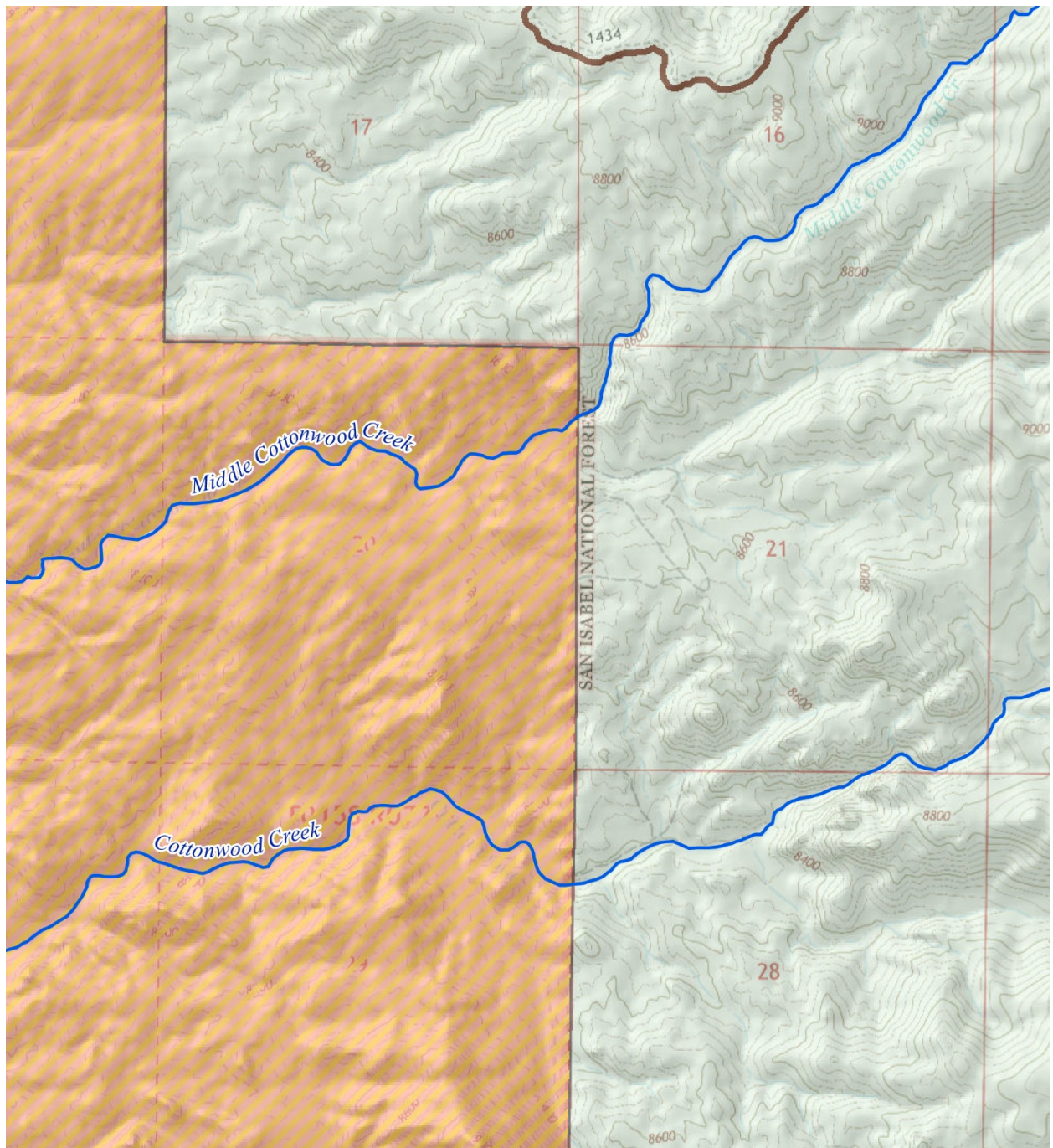
**Middle Cottonwood Creek and Cottonwood Creek  
Map 1 of 3**



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.


**Figure 3.2 Middle Cottonwood Creek and Cottonwood Creek, Map 1**

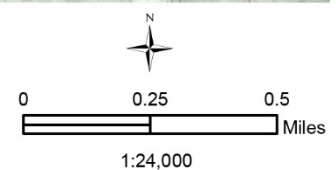




## Middle Cottonwood Creek and Cottonwood Creek

### Map 2 of 3

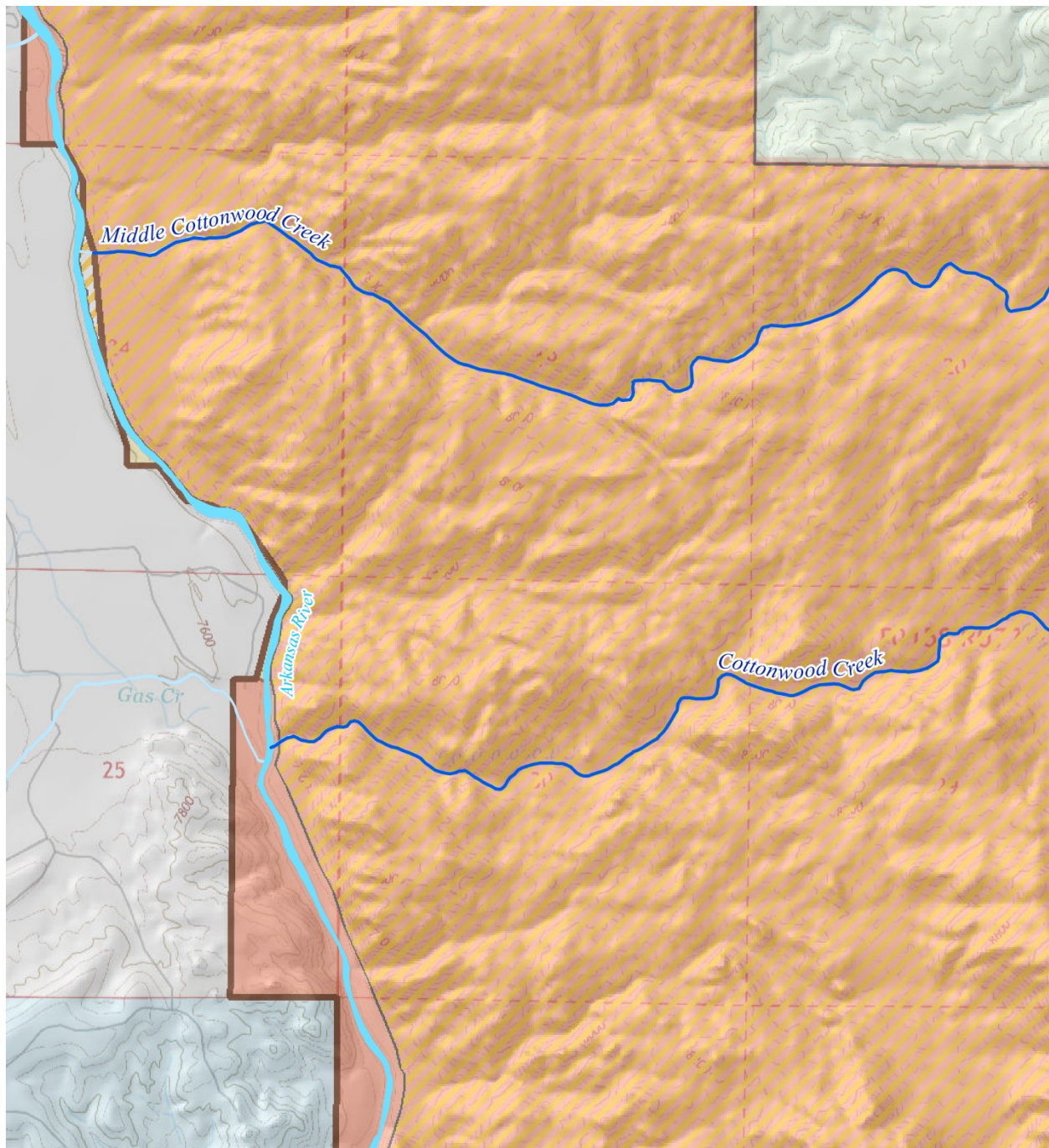
-  Stream Segments
-  Browns Canyon National Monument
-  Bureau of Land Management
-  US Forest Service
-  Browns Canyon Wilderness Study Area
-  Browns Canyon ACEC



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**Figure 3.3 Middle Cottonwood Creek and Cottonwood Creek, Map 2**

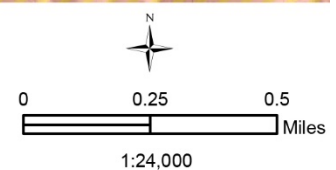




## Middle Cottonwood Creek and Cottonwood Creek

### Map 3 of 3

- |                                     |                           |
|-------------------------------------|---------------------------|
| Stream Segments                     | Bureau of Land Management |
| Browns Canyon National Monument     | US Forest Service         |
| Browns Canyon Wilderness Study Area | State                     |
| Browns Canyon ACEC                  | Private                   |



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**Figure 3.4 Middle Cottonwood Creek and Cottonwood Creek, Map 3**



**Table 3.6 Analysis and Descriptions of Potential ORVs for the Middle Cottonwood Creek Segment**

River-related Value	Analysis
Scenery	<ul style="list-style-type: none"> <li>• Middle Cottonwood Creek runs through rugged terrain, interesting rock outcrops, has outstanding scenic quality from ridge and occasional drainage views both as foreground to complex and contrasting Aspen Ridge and toward dramatic spectacular views to the Collegiate Peaks (Fourteeners) backdrop.</li> <li>• Views from Middle Cottonwood Creek are woodland, montane, stunning, year round, and include Rocky Mountain grandeur, riparian-woodland-mixed conifer-aspen seasonal fall foliage colors and texture contrast.</li> <li>• Middle Cottonwood Creek is low flow, perennial and free flowing only through short stretches.</li> <li>• Comparable rock outcrop landscape and low-flow perennial drainages within the Southern Rockies region, such as north at Buena Vista, northwest in Roaring Fork Valley, south to New Mexico experience greater wildland-urban residential development visual intrusions, when compared with Middle Cottonwood Creek.</li> </ul>
Wildlife & Fisheries	<ul style="list-style-type: none"> <li>• Wildlife species common to the area can be found utilizing Middle Cottonwood Creek such as American elk, Coyote, Townsend's solitaire, White-breasted nuthatch, and Mountain bluebird.</li> <li>• There are no threatened, endangered, or proposed wildlife or fish species known to reside in Little Cottonwood Creek.</li> <li>• Habitat for the eleven documented Sensitive species found in BCNM is not unique to the Middle Cottonwood Creek and can be found across the region.</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>• Middle Cottonwood Creek provides outstanding opportunities for primitive lower montane solitude close to Buena Vista, CO. Developed trails link drainage with part of Ruby-Arkansas River Bench access trail. Cross-country travel is rare and difficult due to the rugged topography and hot arid woodland conditions.</li> <li>• Hunting occurs. Functioning at risk riparian wetland and aquatic system support fair birding and wildlife viewing opportunities but low-flow limit any fishery.</li> <li>• Angling does not occur.</li> <li>• Recreational use occurs at moderate level offering river bench walking and wilderness quality experiential outcomes.</li> <li>• Any recreating visitors to Middle Cottonwood Creek are drawn by lure of remoteness, spectacular national monument scenery of snowcapped 14,000+ Collegiate Peaks, history, and opportunities for wildlife viewing.</li> <li>• But they are not likely attracted by the free-flowing stretches within the stream segment. Creek is low flow.</li> <li>• Undeveloped geology, scenery, and rugged exploration opportunities exist.</li> </ul>

### ***Differences between the Previous and Present Studies***

In the 1992 study, Middle Cottonwood Creek stream and segment were not found equal to other BLM creeks or meeting a regional standard for outstandingly remarkable values. In 2019, the BLM and USFS IDT cites increasing value for wild and scenic lower flow stream segments, which contribute to natural flow in Arkansas River Segment 2 under increasing drought and reduced snow packs. These differences between 1992 and the present study warranted additional analysis.

The BLM and USFS IDT also references outstanding, if not remarkable, scenic views of geological outcrops and the Collegiate Peaks from Cottonwood Creek, as described in Proclamation 9232 and BCNM Planning Assessment Report (BLM and USFS 2018). Finally, the length of Middle Cottonwood Creek, including the free-flowing segment, offers outstanding scientific or historical research opportunities regarding the historical mining era and earlier cultural resources and landscapes along drainage and ridge uplands that have not been surveyed.

However, based on regional comparisons to the EPA Level III Southern Rockies Ecoregion, Arkansas Headwaters, and adjacent San Luis Valley basins, the BLM /USFS IDT determined that Middle Cottonwood Creek does not present ORVs under the WSR Act.

Table 3.7 summarizes the previous (BLM 1996) and current study's findings for the Middle Cottonwood Creek segment.

**Table 3.7 Wild and Scenic River Study Findings for the Middle Cottonwood Creek Segment**

Study	Eligible?	Suitable?	Classification
1992	No	No	Unclassified
2012	No	No	Unclassified
2019	No	No	Unclassified

### 3.4.3 Cottonwood Creek

Figures 3.2 through 3.4 above show the location of Cottonwood Creek.

Table 3.8 shows the BLM's and USFS's tentative classification and determination for Cottonwood Creek.

**Table 3.8 Evaluation of Segment Character, Level of Development, and Free-flowing Determination for the Cottonwood Creek Segment**

Reasoning		
There are some revegetating mining era roads but very little evidence of human encroachment or shoreline development in Cottonwood Creek area. High water quality, if limited surface reach and low-flow; aquatic life and functioning at risk Cottonwood riparian ecological system and conditions on BLM free-flowing length.		
Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM/USFS (Perennial)	BLM/USFS Total	There are no impoundments in this segment.
0.40\0.39	10.5	

### *Cottonwood Creek Segment Outstandingly Remarkable Values*

Table 3.9 presents in-depth analysis and descriptions of potential ORVs for Cottonwood Creek.

**Table 3.9 Analysis and Descriptions of Potential ORVs for the Cottonwood Creek Segment**

River-related Value	Analysis
Scenery	<ul style="list-style-type: none"> <li>• Cottonwood Creek and its upland ridges dissect the monument from Bassam Park at the upper, eastern elevation to the lowest elevations at the Arkansas River.</li> <li>• Cottonwood Creek affords outstanding and varied views of wilderness quality scenery in the Browns Canyon National Monument.</li> <li>• The drainage overlooks particularly dramatic views of the Southern Rockies, the Arkansas River headwaters, northern Rio Grande geologic rift, and Collegiate Peaks Fourteeners, along the entirety of its course.</li> <li>• Specifically east-west observers see a forested montane ridge and gallery riparian corridor framed amidst Elephantine Rock Formations, piñon woodlands, all which contrast with Aspen Ridge.</li> <li>• Comparable rock outcrop landscape and low-flow perennial drainages within the Southern Rockies region, such as north at Buena Vista, northwest in Roaring Fork Valley, south to New Mexico experience greater wildland-urban residential development visual intrusions, when compared with Cottonwood Creek.</li> </ul>
Wildlife: and Fisheries	<ul style="list-style-type: none"> <li>• Cottonwood Creek and uplands provide bighorn sheep lambing and year round habitat.</li> <li>• Cottonwood galleries along the lower sections of the creek provide nesting cavities for a variety of cavity dependent bird species such as Tree swallow, Williamson’s sapsucker and Hairy woodpecker. Habitat along Cottonwood Creek is similar to habitat found throughout the Arkansas River Valley.</li> <li>• Ponded water and spring sources along the drainage could be inhabited by unique, undocumented aquatic life.</li> <li>• No threatened or endangered wildlife or fish species have been documented in the area.</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>• Cottonwood Creek provides outstanding opportunities for solitude close to Buena Vista, CO and nearby Salida, CO.</li> <li>• The Turret Road crosses the drainage, but terrain is rugged and wild.</li> <li>• Cross-country travel by hiking or horseback are common along Cottonwood Creek but both are relatively rare and difficult due to the rugged topography and hot arid woodland and montane conditions.</li> <li>• Hunting, as administered by CPW, is active in game management units for elk, mule deer, and other wildlife, and all access would include drainage use.</li> <li>• Cottonwood creek supports functioning at risk riparian wetland and aquatic systems, birding and wildlife viewing opportunities.</li> <li>• But low water flow limits any fishery. Angling does not occur. Outstanding undeveloped scenery and rugged exploration opportunities exist.</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>• Cottonwood Creek, its upland ridge and drainage area from Bassam Park to Arkansas River Segment 2 area include high likelihood of pre-contact and historic human activity, occupation, and resource use.</li> <li>• Minimal development has occurred in the drainage. Most of the area has not been inventoried. No professional excavations have occurred.</li> <li>• BCNM in general has a high ratio of eligible to not eligible sites, which suggests that the Cottonwood Creek area has potential for additional significant resources and is drainage-thread related.</li> </ul>

River-related Value	Analysis
Tribal	<ul style="list-style-type: none"> <li>The Cottonwood Creek ridges and drainage connect one monument upper watershed, has been and is a human corridor, to the Arkansas River and bench.</li> <li>BLM and USFS are asked by Tribes to address Tribal interests, such as the protection and/or mitigation of religious and culturally significant sites previously identified.</li> <li>Ridge and drainage cultural resources, evidence for traditional use, and contemporary cultural landscape importance to the Southern Ute Indian Tribe, Northern Cheyenne Tribe, and Rosebud Sioux Tribe, among other Tribes are known to the BLM and USFS.</li> <li>Pre-contact and historic cultural sites present and afford outstanding opportunity for Tribal participation in Class III pedestrian archeological survey, traditional knowledge gathering, historic research, and scientific discovery.</li> </ul>

### ***Differences between the Previous and Present Studies***

In the 1992 study, Cottonwood Creek stream and segment were not found equal to other BLM creeks or meeting a regional standard for outstandingly remarkable values, nor did the USFS 2012 study. In the present study, the BLM and USFS IDT recognized the increasing value of ephemeral drainages for water recharge in hydrologic systems in the arid West. The IDT determined that additional analysis was warranted, considering the creek's surface and subsurface contribution to natural flow in Arkansas River Segment 2 within the monument, increasing drought length and intensity, and reduced snow packs between 1992 and 2019.

The BLM and USFS IDT also references spectacular scenic views of geological outcrops and the Collegiate Peaks from Cottonwood Creek, as described in Presidential Proclamation and BCNM Planning Assessment Report (BLM and USFS 2018). Finally, based on cultural resource models and recent inventory, Cottonwood Creek and its ridge uplands offer high probability for outstanding scientific and historical research opportunities regarding the historical mining era, earlier cultural resources, and Tribal heritage landscapes.

However, based on regional comparison to the EPA Level III Southern Rockies Ecoregion, and the Arkansas Headwaters and adjacent San Luis Valley basins, the BLM and USFS IDT determined that Cottonwood Creek does not have ORVs under the WSR Act.

Table 3.10 summarizes the previous (BLM 1996) and current study's findings for the Cottonwood Creek segment.

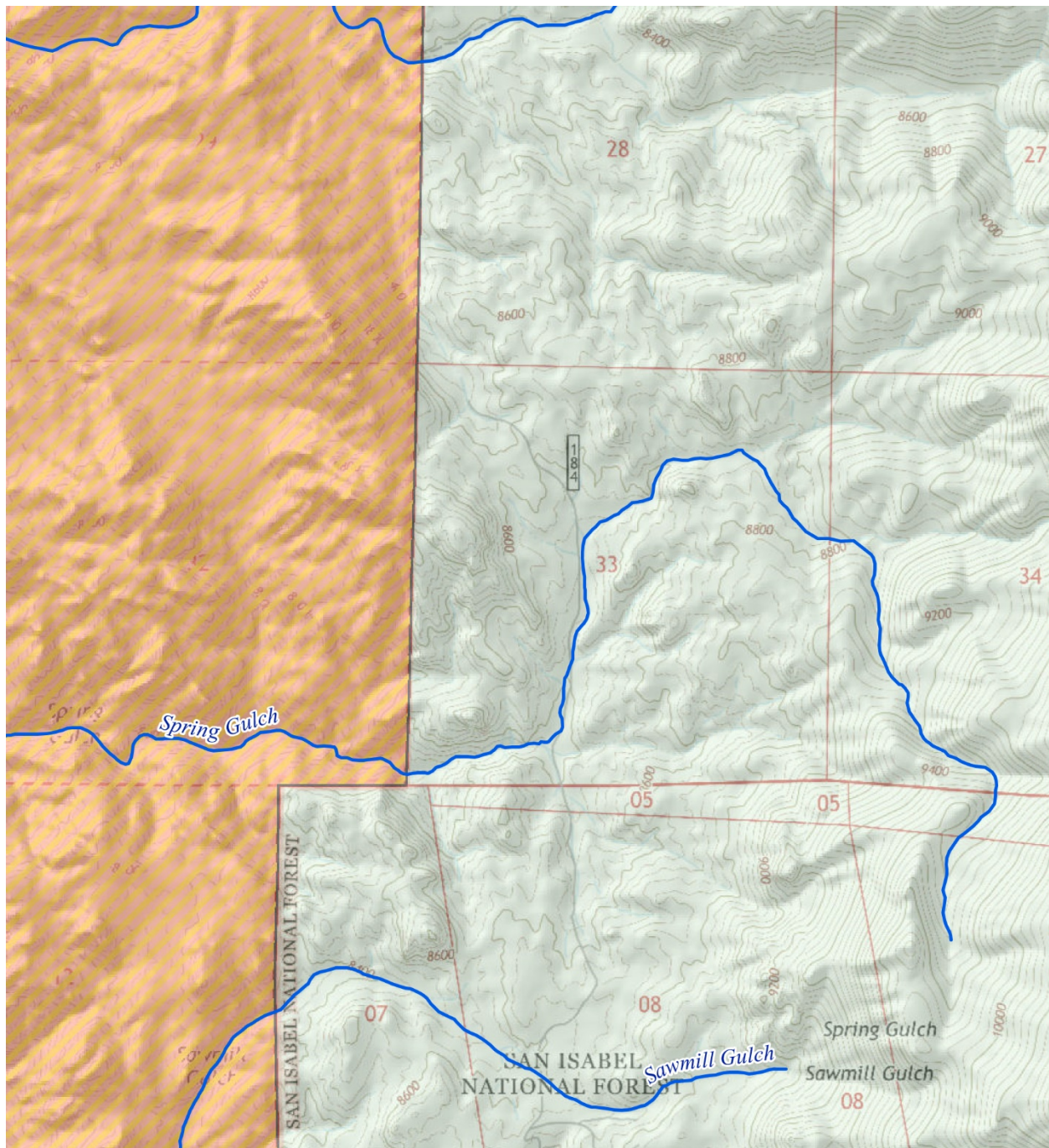
**Table 3.10 Wild and Scenic River Study Findings for the Cottonwood Creek Segment**

Study	Eligible?	Suitable?	Classification
1992	No	No	Unclassified
2012	No	No	Unclassified
2019	No	No	Unclassified

### **3.4.4 Spring Gulch, Sawmill Gulch, and Green Gulch**







Figures 3.5, 3.6, and 3.7 show the location of Spring Gulch, Sawmill Gulch, and Green Gulch in Browns Canyon National Monument.

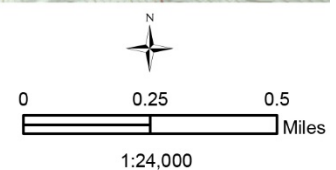




## Spring Gulch

### Map 1 of 2

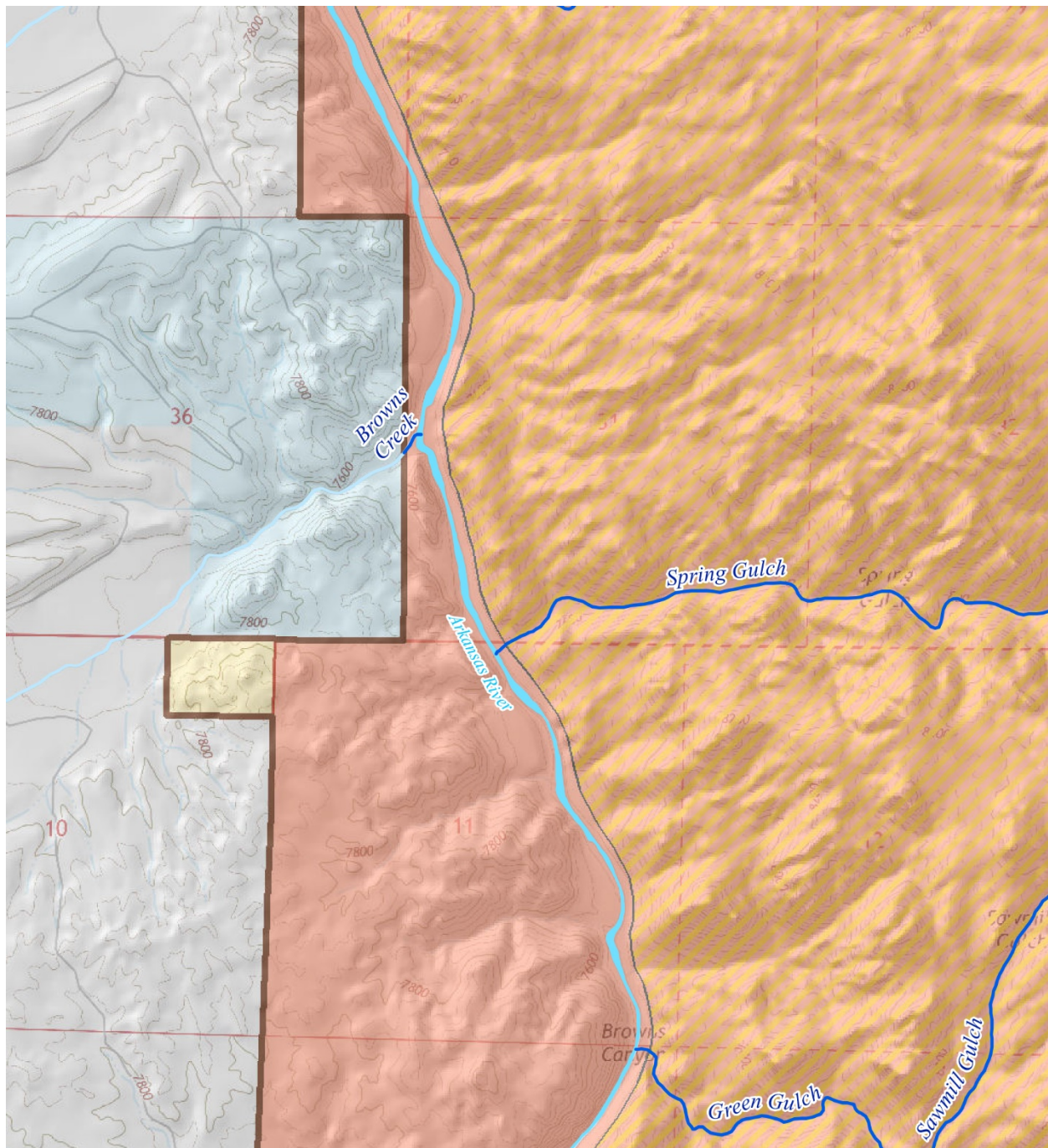
-  Stream Segments
-  Browns Canyon National Monument
-  Browns Canyon Wilderness Study Area
-  Browns Canyon ACEC
-  Bureau of Land Management
-  US Forest Service



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.






**Figure 3.5 Spring Gulch, Browns Canyon National Monument, Map 1**

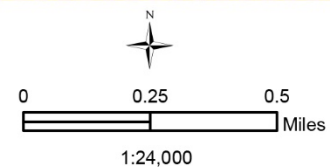




## Spring Gulch and Browns Creek

### Map 2 of 2

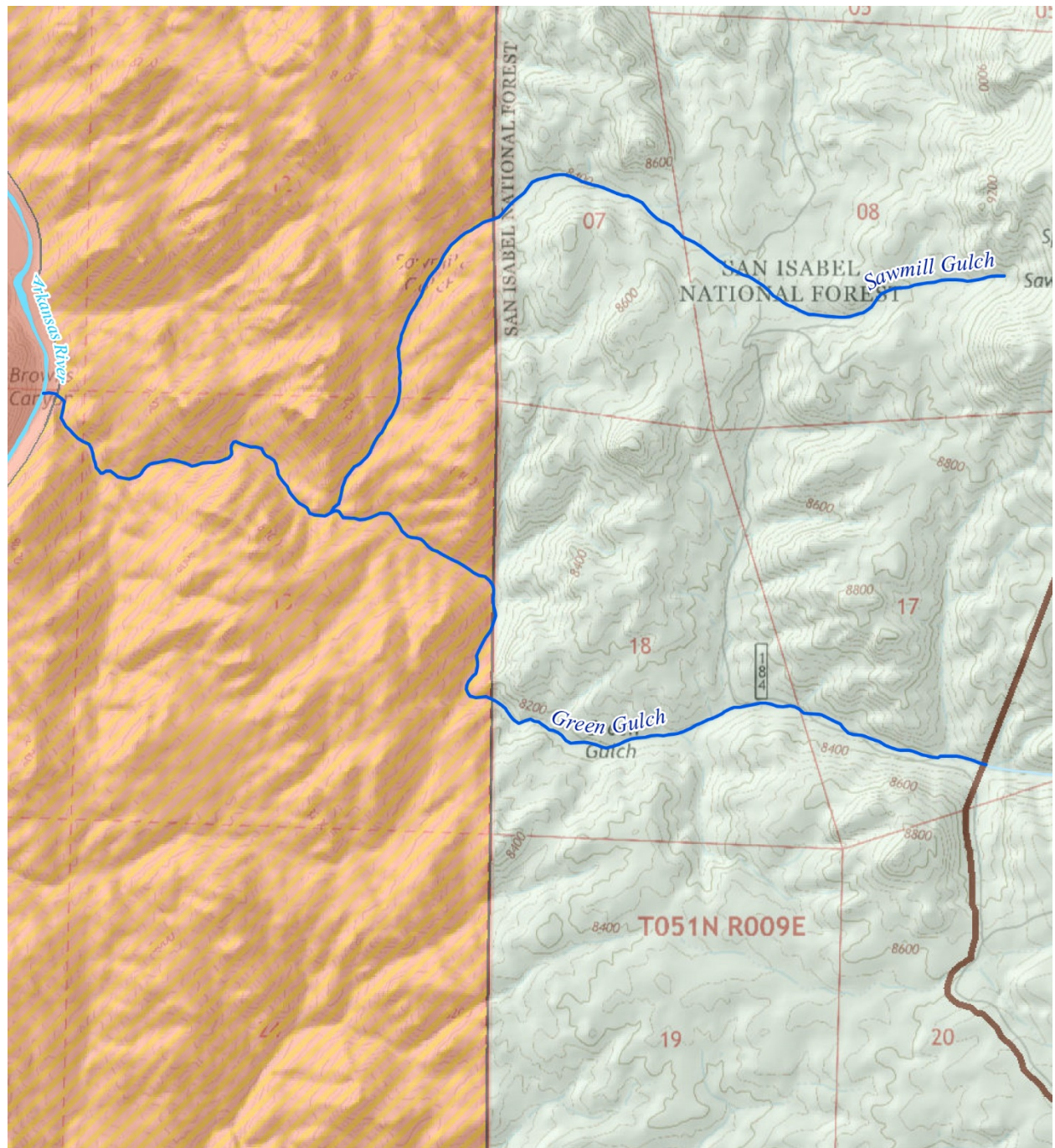
-  Stream Segments
-  Browns Canyon National Monument
-  Browns Canyon Wilderness Study Area
-  Browns Canyon ACEC
-  Bureau of Land Management
-  State
-  Private








No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

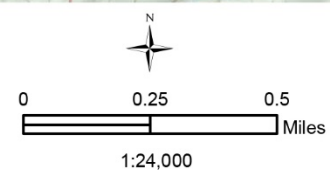
**Figure 3.6 Spring Gulch, Browns Canyon National Monument, Map 2**





## Sawmill Gulch and Green Gulch

-  Stream Segments
-  Browns Canyon National Monument
-  Browns Canyon Wilderness Study Area
-  Browns Canyon ACEC
-  Bureau of Land Management
-  US Forest Service



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**Figure 3.7 Sawmill Gulch and Green Gulch, Browns Canyon National Monument, Chaffee County, CO**

Table 3.11 gives the BLM's and USFS's tentative classification and determinations for Spring Gulch, Sawmill Gulch, and Green Gulch Segments.

**Table 3.11 Evaluation of Segment Character, Level of Development, and Free-flowing Determination for the Spring Gulch, Sawmill Gulch, and Green Gulch Segments**

Reasoning		
No developed trails exist. There is limited sign of human heritage including mining era prospects. Wildlife trails dominate.		
Sawmill Gulch Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM (Perennial)	BLM/USFS Total	There are no impoundments in this segment.
0.17	4.40	
Green Gulch Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM (Perennial)	BLM/USFS Total	There are no impoundments in this segment.
0.62	1.36	
Spring Gulch Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM (Perennial)	BLM/USFS Total	There are no impoundments in this segment.
0.50	4.40	

***Spring Gulch, Sawmill Gulch, and Green Gulch Outstandingly Remarkable Values***

Table 3.12 presents in-depth analysis and descriptions of potential ORVs for Spring Gulch, Sawmill Gulch, and Green Gulch.

**Table 3.12 Analysis and Descriptions of Potential ORVs for Spring Gulch, Sawmill Gulch, and Green Gulch Segments**

River-related Value	Analysis
Scenery	<ul style="list-style-type: none"> <li>Green Gulch, Sawmill Gulch, and Spring Gulch to the north, their upland ridges, colorful granitic rock outcrops form the wild and iconic heart of the Browns Canyon Wilderness Study Area.</li> <li>The three Gulches cascade in elevation and form the most remote, primitive, and wild Browns Canyon uplands.</li> <li>The area offers scenic quality "A" views from ridge and drainage both as foreground to steep montane terrain and a complex, seasonally contrasting mosaic of Cottonwood Gallery, Pinon-Juniper, Mixed Conifer, and Aspen Ridge vegetation.</li> <li>The dramatic and spectacular monument backdrop within and from the three Gulches, including Browns Canyon and Collegiate Peaks (Colorado Fourteeners) scenery are breathtaking to residents and backcountry visitors.</li> <li>Terrain and colorful scenery overall is outstanding year round, and remarkable regionally, as lower elevation montane Pinon-Juniper woodland and elephantine rock granite outcrops when compared with similar scenery.</li> </ul>



River-related Value	Analysis
	<ul style="list-style-type: none"> <li>• Comparable rock outcrop landscape and low-flow perennial drainages within the Southern Rockies region, such as north at Buena Vista, northwest in Roaring Fork Valley, south to New Mexico experience greater wildland-urban residential development visual intrusions, when compared with Green, Sawmill, and Green Gulches.</li> <li>• The area offers outstanding monument landscape scenic as seen from US Highway 285.</li> <li>• In particular dawn and sunset views of the rock outcrop terrain that form the three Gulches, their shadow contrasts, and drainage ridge tops, both from within monument and from US 285, are particularly dramatic, and afford spectacular views of wilderness quality scenery of Arkansas River Headwaters landscapes.</li> <li>• The three Gulch ridges overlook the Browns Canyon and Collegiate Peaks along its course.</li> <li>• Views from the gulches include dramatic and stunning overlooks of riparian, woodland, montane forest, year round, and describe Rocky Mountain grandeur. Green Gulch is low flow, perennial and free flowing only through short stretches, and offers outstanding arid montane Rocky Mountain scenic views.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>• It is the surface expression of Rocky Mountain geologic formations, as noted in Proclamation 9232, specifically the Proterozoic intrusion geology of Henry Mountain and elephantine rock granite outcrops within BCNM pinyon juniper woodland that provide spectacular scenic value for people viewing the monument from US Highway 285 or exploring primitive wilderness in the Spring Gulch area.</li> <li>• These central Browns Canyon National Monument geologic formations that include Green Gulch drainage and their surface expression form the iconic and unique terrain that is prominent, unique, and outstanding within the Arkansas River basin or the Southern Rockies.</li> <li>• For reference note their expression that extends northward outside of the monument extends northward, river east, past Buena Vista, CO.</li> </ul>
Botany	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
Wildlife and Fisheries	<ul style="list-style-type: none"> <li>• Green Gulch and uplands provide mountain lion, bighorn sheep lambing and year round habitat.</li> <li>• Spring Gulch contains seeps and springs that provide water for wildlife such as black bear, bobcat and mule deer. Flammulated owl, green-tailed towhee, and Cooper's hawk have been documented in the area.</li> <li>• Although the site is interesting and provides habitat for many wildlife species, it is not necessarily unique.</li> <li>• Similar habitat can be found throughout the Arkansas River Valley.</li> <li>• Surveys specifically for Mexican spotted owl have been conducted in Green Gulch.</li> <li>• No threatened or endangered wildlife or fish species have been documented in the area.</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>• Green Gulch provides extraordinary opportunities for primitive solitude nearby Buena Vista and Salida, CO.</li> <li>• The Turret Road crosses the drainage, but terrain is rugged and wilderness quality. Cross-country travel by horseback, hiking, and hunting occur, and challenges due to the rugged topography and hot arid woodland and montane conditions.</li> <li>• Properly functioning riparian wetland and aquatic system support excellent birding and wildlife viewing opportunities but low-flow limit any fishery. Angling does not occur. Wilderness quality backcountry experiential outcomes are afforded and any recreating visitor are drawn by lure of extremely rugged landscape, remoteness, spectacular national</li> </ul>

River-related Value	Analysis
	<p>monument scenery of snowcapped 14,000+ Collegiate Peaks, history, and opportunities for wildlife viewing.</p> <ul style="list-style-type: none"> <li>But they are not likely attracted by the free-flowing stretches within the stream segment. Green Gulch is low flow except at high value springs at upper most reach. Spectacular undeveloped scenery and rugged exploration opportunities exist.</li> </ul>

### ***Differences between the Previous and Present Studies***

In the 1992 study, Spring Gulch, Sawmill Gulch, and Green Gulch streams and segments were not found equal to other BLM creeks or meeting a regional standard for outstandingly remarkable values. The BLM and USFS IDT took a harder look in 2019 and cite the increasing value of wild and scenic lower flow stream segments, which contribute to natural flow in Arkansas River Segment 2 at lower elevations within Browns Canyon National Monument. The IDT found additional analysis was warranted due to increasing drought and reduced snow packs between 1992 and the present 2019 study.

The BLM and USFS IDT also referenced spectacular scenic views of geological outcrops and the Collegiate Peaks as described in Proclamation 9232 (February 2015) and the BCNM's Planning Assessment Report (BLM and USFS 2018). Finally, based on cultural resource models and recent inventory, Green Gulch and its ridge uplands offer outstanding scientific and historical research opportunities regarding the historical mining era, earlier cultural resources, and Tribal heritage landscapes.

However, based on regional comparisons to the EPA Level III Southern Rockies Ecoregion, Arkansas Headwaters, and adjacent San Luis Valley basins, the BLM and USFS IDT determined that Spring Gulch, Sawmill Gulch, and Green Gulch do not present ORVs under the WSR Act.

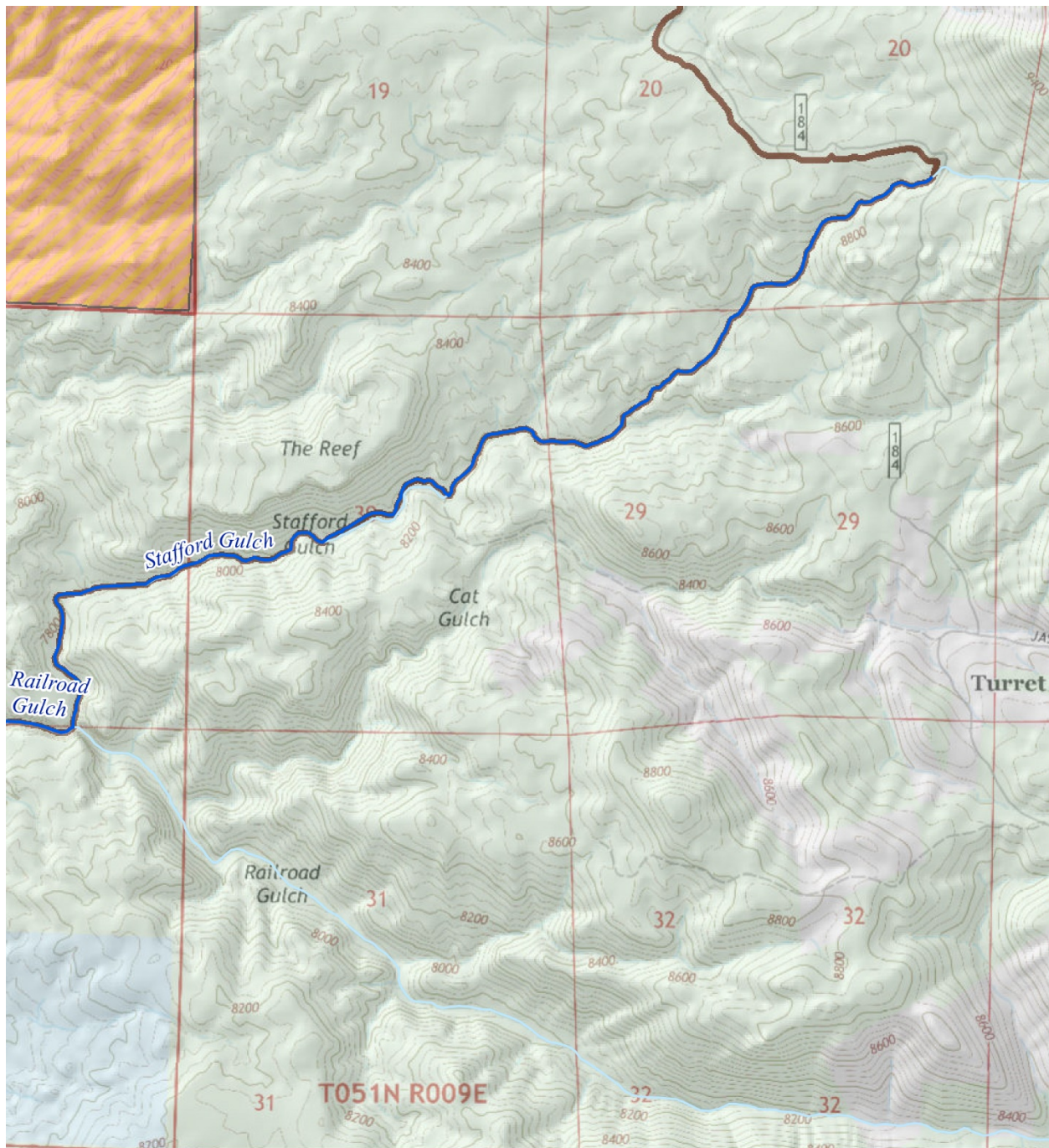
Table 3.13 summarizes the previous (BLM 1996) and current study's findings for the Green Gulch, Spring Gulch, and Sawmill Gulch segments.

**Table 3.13 Wild and Scenic River Study Findings for Spring Gulch, Sawmill Gulch, and Green Gulch Segments, 1992 to 2019**

Study	Eligible?	Suitable?	Classification
1992	No	No	Not studied. Unclassified
2012	No	No	Not studied. Unclassified
2019	No	No	Unclassified

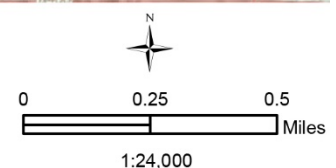
### **3.4.5 Stafford Gulch and Railroad Gulch**

Figures 3.9 and 3.10 show the location of the Stafford Gulch and Railroad Gulch segments in Browns Canyon National Monument.



## Stafford Gulch

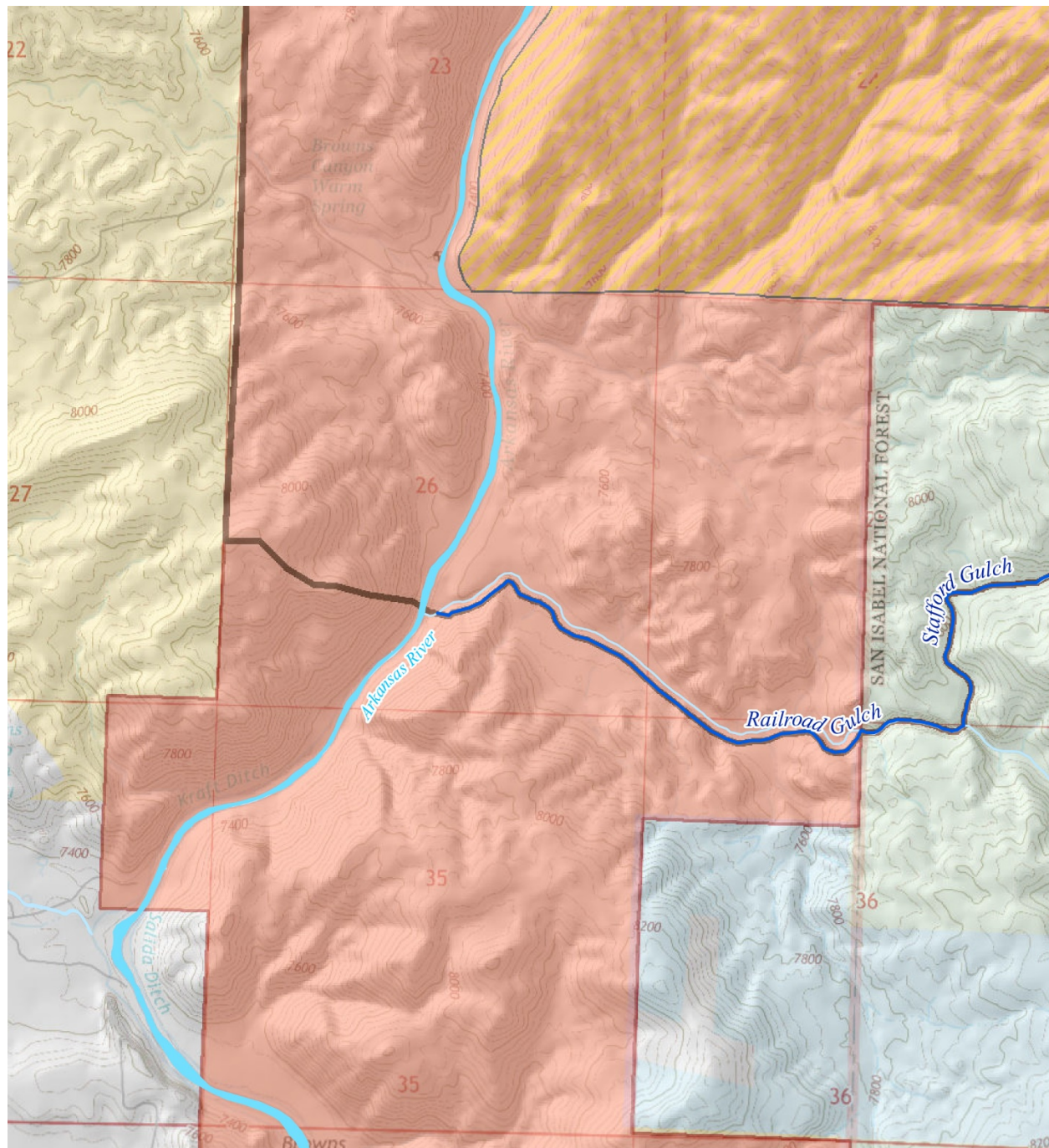
- |                                     |                           |
|-------------------------------------|---------------------------|
| Stream Segments                     | Bureau of Land Management |
| Browns Canyon National Monument     | US Forest Service         |
| Browns Canyon Wilderness Study Area | State                     |
| Browns Canyon ACEC                  | Private                   |



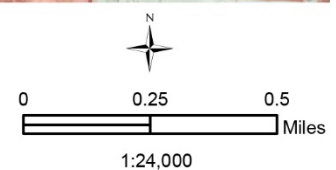
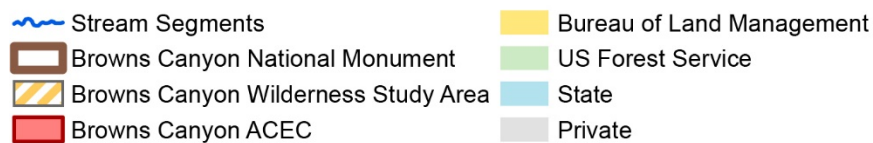
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**Figure 3.8** Stafford Gulch, Browns Canyon National Monument, Chaffee County, CO





## Railroad Gulch



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**Figure 3.9 Railroad Gulch, Browns Canyon National Monument, Chaffee County, CO**



Table 3.14 gives the BLM's and USFS's tentative classification and determination for the Stafford Gulch and Railroad Gulch segments.

**Table 3.14 Evaluation of Segment Character, Level of Development, and Free-flowing Determination for Stafford Gulch and Railroad Gulch Segments**

Reasoning		
Developed trails exist. There is sign of historic human heritage including railroad mining era prospects.		
Stafford Gulch Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM/USFS (Perennial)	BLM/USFS Total	There are no impoundments in this segment.
0	4.40	
Railroad Gulch Free-flowing River Length (Miles)		Reasons for Free-flowing Determination
BLM/USFS (Perennial)	BLM/USFS Total	There are no impoundments in this segment.
0	1.36	

***Stafford Gulch and Railroad Gulch Outstandingly Remarkable Values***

Table 3.15 presents in-depth analysis and descriptions of potential ORVs for Stafford Gulch and Railroad Gulch.

**Table 3.15 Analysis and Descriptions of Potential ORVs for Stafford Gulch and Railroad Gulch in BCNM**

River-related Value	Analysis
Scenery	<ul style="list-style-type: none"> <li>Stafford Gulch and Railroad Gulch and their steep colorful granitic cliffs and spectacular rock outcrops at Hecla Castle and the Reef form the iconic southern boundary of the BCNM.</li> <li>The connected Gulches cascade in elevation and form an accessible historic portion of the Turret mining district and Calumet line.</li> <li>This primitive and wild portion of Browns Canyon NM offers scenic quality "A" views; from ridge and drainage both as foreground to steep montane terrain and a complex, seasonally contrasting mosaic of Cottonwood Gallery, Pinon-Juniper, Mixed Conifer and Aspen Ridge vegetation.</li> <li>The dramatic and spectacular monument backdrop within and from the two Gulches, form dramatic Browns Canyon scenery and are cherished by residents and backcountry visitors.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>It is the Rocky Mountain geologic formations, as noted in Proclamation 9232, specifically the Wall Mountain Tuff that form such features as the Hecla Castle and Reef formation, all occurring within BCNM pinyon juniper woodland, that provide spectacular scenic value for people exploring the monument.</li> <li>These BCNM geologic formations, including Railroad and Stafford Gulch drainages and their surface expression as steep cliffs, form another iconic terrain that is prominent, unique, and outstanding within the Arkansas River basin.</li> </ul>
Wildlife and Fisheries	<ul style="list-style-type: none"> <li>Stafford and Railroad Gulches contain some of the most spectacular wildlife habitat within Browns Canyon NM providing nesting sites for Peregrine and Prairie falcon amongst the rock outcrops and canyon walls.</li> </ul>

River-related Value	Analysis
	<ul style="list-style-type: none"> <li>• The narrow passageway through the canyons periodically contains live water which is a magnet for many wildlife species.</li> <li>• Canyon wren and wild turkey, mountain lion, and Rocky Mountain bighorn sheep are present in the area.</li> <li>• Likely one of the main reasons the site provides habitat for relatively rare wildlife species is because of its wild character.</li> <li>• No system trails or uses are identified although the public is exploring the area mainly throughout the spring, summer, and fall.</li> <li>• A seasonal closure is encouraged during the falcon nesting period to avoid the loss of the nesting site in the future.</li> <li>• No threatened or endangered wildlife or fish species have been documented in the area.</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>• Stafford and Railroad Gulches provide outstanding opportunities for primitive solitude nearby Buena Vista and Salida, CO.</li> <li>• The Turret Road crosses the drainage, but terrain is rugged and wilderness characteristic.</li> <li>• Cross-country travel by horseback and hiking, and hunting occur.</li> <li>• Ephemeral flows riparian wetland and aquatic system support excellent birding and wildlife viewing opportunities but low-flow limit any fishery. Angling does not occur.</li> <li>• Wilderness quality backcountry experiential outcomes are afforded and any recreating visitor are drawn by lure of extremely rugged landscape, remoteness, spectacular national monument scenery of snowcapped 14,000+ Collegiate Peaks, history, and opportunities for wildlife viewing.</li> </ul>

### ***Differences between Previous and Present Studies***

In the 1992 study, the Stafford Gulch and Railroad Gulch segments were not found equal to other BLM creeks or meeting a regional standard for outstandingly remarkable values. The BLM and USFS IDT took a harder look in 2019 and cite the increasing value of wild and scenic lower flow stream segments, which contribute to natural flow in Arkansas River Segment 2, at lower elevations within the monument.

The IDT found that increasing drought and reduced snow packs between 1992 and the present 2019 study warranted additional analysis. The BLM and USFS IDT also references spectacular scenic views of geological outcrops and the Collegiate Peaks as described in Proclamation 9232 (February 2015) and the BCNM's Planning Assessment (BLM and USFS 2018). Finally, based on cultural resource models and recent inventory, the gulches and their ridge uplands offer outstanding scientific and historical research opportunities regarding the historical mining era, earlier cultural resources, and Tribal heritage landscapes.

However, based on regional comparison to the EPA Level III Southern Rockies ecoregion, Arkansas Headwaters and adjacent San Luis Valley basins the BLM and USFS ID Team determined that Stafford Gulch and Railroad Gulch do not show ORVs under the WSR Act.

Table 3.16 summarizes the previous (BLM 1996) and current study's findings for the Stafford Gulch and Railroad Gulch segments.

**Table 3.16 Wild and Scenic River Study Findings for Stafford Gulch, Sawmill Gulch, and Green Gulch Segments**

<b>Study</b>	<b>Eligible?</b>	<b>Suitable?</b>	<b>Classification</b>
1992	No	No	Not studied. Unclassified
2012	No	No	Unclassified
2019	No	No	Unclassified

## 4. COMPARISON OF PROTECTIONS

Potential WSR designation of BCNM streams and/or Arkansas River Segment 2 would result in overlapping special designations which serve similar purposes.

Table 4.1 presents a comparison of the protection of resources under the tentative recreational classification and Proclamation 9232. This table demonstrates that protection under authorization of ROWs and designation of utility corridors, recreation, wildlife and fish, livestock, water resources, withdrawal and acquisition are substantially equivalent under potential WSR designation (tentative recreational classification) and Proclamation 9232.

Impacts to BCNM resources from minerals, transportation and motorized use would have greater protection under Proclamation 9232.

Impacts to BCNM resources from vegetation, fire management, invasive species, and signage activities would have greater protection under potential WSR designation (tentative recreational classification).

On the whole, BCNM streams and Arkansas River Segment 2's outstandingly remarkable values are also identified as ROVs in Proclamation 9232. These outstandingly remarkable values would be managed under substantially equivalent protection via Proclamation 9232 compared to potential WSR designation.

**Table 4.1. Comparison of Protection of Resources under the Tentative Recreational Classification and Proclamation 9232**

Resource	Protection under Tentative Recreational Classification (BLM Manual 6400)	Protection under BCNM Designation (Proclamation 9232)
<b>Minerals</b>	Federal lands within the boundaries of designated river areas classified as scenic or recreational <u>are not withdrawn</u> under the WSRA from the mining and mineral leasing laws. Filing new mining claims or mineral leases is allowed but is subject to reasonable access and regulations that minimize surface disturbance, water sedimentation, pollution, and visual impairment. Subject to valid existing rights, mining claimants may only obtain title to the mineral deposits and such rights to the surface and surface resources as are reasonably required for prospecting or mining.	All Federal lands and interests in lands within the boundaries described in the accompanying map <u>are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, leasing, or other disposition</u> under the public land laws or laws applicable to the USFS, including location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument.
<b>Transportation System</b>	New roads and railroads are permitted to <u>parallel the river</u> if such construction fully protects river values (including the river's free-flowing condition). Bridge crossings and river access are allowed. New trail construction or airfields must be compatible with and fully protect identified values.	New roads or trails may only be designated <u>for motorized vehicle use in areas west of the Arkansas River and at the Ruby Mountain Recreation Site and then only as necessary to provide reasonable river or campground access</u> , consistent with the applicable management plan. Forest Road 184 may be realigned or improved only if for the care and management of the objects



Resource	Protection under Tentative Recreational Classification (BLM Manual 6400)	Protection under BCNM Designation (Proclamation 9232)
		identified above or as necessary for public safety.
<b>Motorized Travel</b>	<u>Motorized and mechanized travel on land or water may be permitted, restricted, or prohibited</u> to protect river values.	Except for emergency or authorized administrative purposes, <u>motorized and mechanized vehicle use in the monument shall be allowed only on roads and trails designated for such use</u> , consistent with the care and management of the objects identified above.
<b>Authorization of ROWs and Designation of Utility Corridors</b>	<p>To the greatest extent possible, <u>the BLM will avoid authorizing new ROWs within the WSR boundary</u>. The BLM will, through appropriate land use planning processes and project-level reviews, exercise its discretion to deny applications for ROW grants in WSRs if the BLM determines through appropriate environmental analysis that the ROW proposal is not compatible with the river's classification and the protection and enhancement of river values. To the greatest extent possible, <u>the BLM will avoid designating or using transportation or utility corridors within a WSR boundary</u>.</p> <p>Consistent with applicable law, the BLM will, when developing or revising land use plans that include a WSR, <u>consider designating the WSR boundary as an exclusion or avoidance area</u> and relocating any existing designated transportation and utility corridors outside the boundaries of the WSR. The BLM will not designate a new transportation or utility corridor in a WSR boundary if the BLM determines that the proposed corridor will not be compatible with the river's classification and the protection and enhancement of river values.</p>	<p>Nothing in this proclamation shall be deemed to affect the operation or use of the existing railroad corridor as a railroad ROW pursuant to valid existing rights or for recreational purposes consistent with the care and management of the objects identified above.</p> <p>Note that Alternatives A and C would manage BCNM as an avoidance area. Alternative B would manage the BCNM as an SUA and ROW exclusion area (including communication sites) for new ROW or SUA authorizations.</p>
<b>Recreation Development</b>	<u>Recreation, administrative, and river access facilities may be located in close proximity to the river</u> . However, recreational classification does not require extensive recreation development. All facilities will be located and designed to harmonize with the natural and cultural settings, protect identified river values including water quality, and be screened from view from the river to the extent possible. Any portion of a recreation restoration or enhancement project that has	<u>Nothing in this proclamation affects or shall be deemed to preclude the Secretaries from reissuing existing authorizations or agreements for the cooperative administration of the Arkansas Headwaters Recreation Area. New or modified authorizations or agreements for such purpose may be issued, consistent with the care and management of the objects identified above</u> . The Secretaries also may authorize and reauthorize commercial recreational services within the monument,

Resource	Protection under Tentative Recreational Classification (BLM Manual 6400)	Protection under BCNM Designation (Proclamation 9232)
	the potential to affect the river's free-flowing condition (e.g., a whitewater park for kayakers) will be evaluated as a water resources project.	including outfitting and guiding, consistent with the care and management of the objects identified above.
<b>Wildlife and Fish Projects</b>	Construction of structures and vegetation management to protect and enhance wildlife and fish habitat should fully protect identified river values. Any portion of a wildlife or fisheries restoration or enhancement project that has the potential to affect the river's free-flowing condition will be evaluated as a water resources project.	Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Colorado, including its jurisdiction and authority with respect to fish and wildlife management.
<b>Vegetation Management</b>	<u>A range of vegetation management and timber harvest practices are allowed,</u> provided that these practices are designed to protect, restore, or enhance the river environment, including the long-term scenic character.	No similar protection.
<b>Fire Management</b>	<u>Wildland fire use and prescribed fire may be used to restore or maintain habitat</u> for threatened, endangered, or sensitive species; restore or maintain ecological conditions; and/or meet desired conditions of the CRMP. Management and suppression activities will be carried out in a manner consistent with direction in the CRMP and compatible with the management of contiguous Federal lands.	No similar protection.
<b>Livestock Grazing</b>	<u>Domestic livestock grazing may continue</u> as long as such practice does not conflict with the protection and enhancement of river values. Existing structures may generally be maintained. New structures may be developed to facilitate livestock management, consistent with direction in the CRMP and the area's classification.	<u>Laws, regulations, and policies followed by the BLM or the USFS in issuing and administering grazing permits or leases on lands under their jurisdiction shall continue to apply</u> with regard to the lands in the monument, consistent with the care and management of the objects identified above.
<b>Invasive Species Management</b>	<u>The spread of terrestrial and aquatic invasive species should be prevented and controlled,</u> consistent with direction in the CRMP and other authorities. <u>A full range of manual and chemical prevention and control methods may be used,</u> consistent with direction in the CRMP; BLM Manual Sections 9011, 9014, and 9015; BLM Handbook 1740-2; and other approved Federal direction. Chemical treatment must be carefully evaluated so as not to adversely affect water quality.	No similar protection. See also Volume 1, Table 2.3 5. Alternative Details for Vegetation, Wildland Fire Ecology, and Fuels.

Resource	Protection under Tentative Recreational Classification (BLM Manual 6400)	Protection under BCNM Designation (Proclamation 9232)
<b>Water Resources Projects</b>	The Federal Power Commission [FERC] <u>shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project</u> works under the Federal Power Act, as amended, on or directly affecting any river which is designated in section 3 of this Act as a component of the national wild and scenic rivers system or which is hereafter designated for inclusion in that system, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic, or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of designation of a river as a component of the National Wild and Scenic Rivers System.	All Federal lands and interests in lands within the boundaries described in the accompanying map are hereby <u>appropriated and withdrawn from all forms of entry, location, selection, sale, leasing, or other disposition</u> under the public land laws... This proclamation <u>does not alter or affect the valid existing water rights</u> of any party, including the United States. This proclamation does not reserve water as a matter of Federal law, and the inclusion of the land underlying the Arkansas River in the monument shall not be construed to reserve such a right. This proclamation <u>does not alter or affect agreements governing the management and administration of Arkansas River flows, including the Voluntary Flow Management Program.</u>
<b>Signage</b>	Signs should use the National System logo to identify a river as part of the National System. Placement of signs should be consistent with classification and direction in the CRMP or related sign plan. Boundary signage must be located within 1 foot of the wild, scenic, and recreational boundaries. It is prohibited to install boundary signage on an approximate or set back line.	No similar protection.

Resource	Protection under Tentative Recreational Classification (BLM Manual 6400)	Protection under BCNM Designation (Proclamation 9232)
<b>Withdrawal from Public Land Laws</b>	Public (Federal) lands within the <u>authorized boundary of a designated component of the National System are withdrawn from entry, sale, or other disposition under the public land laws</u> of the United States pursuant to Section 8(a) of the WSRA.	All Federal lands and interests in lands within the boundaries described in the accompanying map are <u>hereby appropriated and withdrawn from all forms of entry, location, selection, sale, leasing, or other disposition under the public land laws</u> or laws applicable to the USFS, including location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument.
<b>Acquisition</b>	Pursuant to Section 6(a)(1) of the WSRA, <u>the BLM may acquire lands and interest in lands within the boundary of any component of the National System that is designated by Congress</u> under Section 3(a) to protect river values and achieve other purposes of the WSRA. The BLM may not acquire fee title to more than an average of 100 acres per river mile within the corridor (i.e., approximately 50 acres from either side of the river bank). There is no acreage limitation for an easement, however, if the river is within the boundaries of an NLCS unit. Nothing in the WSRA precludes the acquisition of lands via other Federal agency authorities or laws within the boundaries of that administering unit. If 50 percent or more of the river corridor acreage is in public ownership (Federal, state, local), this acquisition can only be on a willing seller-buyer basis.	Not applicable, all of the lands on either side of the river bank are owned by BLM.



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## **Appendix J. Cumulative Impact Methodology and Past, Present, and Reasonably Foreseeable Future Actions**

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This appendix provides additional information for the analysis of cumulative impacts presented in chapter 3 of the RMP/EIS. Cumulative impacts are the direct and indirect impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action. The cumulative impacts analysis considers past and ongoing actions that have contributed to the conditions of resources within the geographic scope and time frame of the cumulative impacts analysis. A variety of different types of projects and actions are contributing to ongoing effects on resources. Reasonably foreseeable future actions are uses, activities, or events planned, proposed, or expected to occur in the planning area in the foreseeable future that may contribute cumulative impacts. These actions are not speculative or in the distant future. They could be the continuation of recent trends in use. The actions were identified through scoping (public and internal) and review of existing planning documents from other organizations. The BLM and USFS considered actions within or near the planning area that were of sufficient scope to affect the resources discussed in this RMP at similar spatial and temporal scales as direct and indirect impacts. The following past, present, and reasonably foreseeable actions comprise the cumulative impact scenario for this RMP:

- Land, travel, and resource management planning:
  - BLM Eastern Colorado RMP (Draft June 2019)
  - CPW, BLM, and USFS Arkansas Headwaters Recreation Area Management Plan (2019)
  - USFS Pike and San Isabel National Forests Land and Resource Management Plan (1984);
  - USFS Pike and San Isabel National Forests Motorized Travel Plan (expected 2020)
  - BLM Fourmile Travel Management Plan (2002)
  - BLM Arkansas River Travel Management Plan (2008)
- Local planning:
  - Transportation network upgrades and maintenance, and traffic flow from US 285, Chaffee County road and transportation upgrades on CR300, CR194, FS187, FS185
  - Chaffee County comprehensive plan, land use planning, and subdivision approvals (i.e., Centerville)
- Habitat management projects
- Wildlife management projects
- Past mining on BLM and USFS lands and adjacent areas on State and private lands, including along the Arkansas River
- Limited past, current, and future garnet casual collection

- On-going abandoned mine clean-ups in the region
- Presence of the inactive Union Pacific Railroad. (It is assumed that within the planning horizon the railroad would remain inactive; however, it is acknowledged that the operation and use of the existing railroad corridor is pursuant to valid existing rights. Therefore, if the use of the corridor should change within the planning horizon a management plan amendment would be needed to reconsider impacts to monument ROVs.)
- Presence of the inactive Denver & Rio Grande Railroad - Calumet Branch and Turret Mining Area (Past Project – Railroad Gulch)
- Population and recreation growth in region and Colorado
- Continued recreation area development and infrastructure maintenance, particularly at BLM and USFS travel management areas in Chaffee, Lake, Fremont, Park, and Saguache counties (Fourmile, St. Elmo, Arkansas River)
- Salida, Buena Vista, and other local recreation developments
- Development and maintenance of utility corridors (for example, USFS Western Area Power Administration Right-of-Way Maintenance and Reauthorization Project)
- Continued vegetation and timber treatments and hazardous fuels reduction and mitigation on BLM, USFS, and other public and private lands – fuels treatment and ecological restoration
- Continued spread and invasion of noxious weeds
- Continued changes and possible intensification to Colorado's climate in association with global climate change, such as increased water temperatures and changes in precipitation patterns, earlier snowmelt and peak runoff, and lower groundwater recharge rates
- Increasing wildfire occurrence and intensity due to fire suppression, fuel buildup, and expansion of the wildland-urban interface (WUI)

Induced Growth Effects from increased visitation:

- Effects on the available uses of Federal lands beyond the monument's planning area boundary (other adjoining areas of the Royal Gorge Field Office and Pike and San Isabel National Forest).
- Greater traffic in the Bassam Park, Hecla Road, and Aspen Ridge areas leading to increased dispersed, unregulated camping in Four Mile/Buena Vista.
- Increased usage on County, BLM, and NFSR roads.



## Appendix K. Mitigation Strategy and Monitoring Measures

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This appendix provides an overview of the mitigation strategy and monitoring measures to evaluate the effectiveness of the RMP.

Conditions may change over the life of the land use plans, and such changes may require adaptive management to protect resources and minimize resource conflicts. To address changing conditions and provide management flexibility that incorporates BMPs (see Appendix G, Best Management Practices), the BLM and USFS will review the effectiveness of management actions, assess the current resource conditions, and, if needed, alter management actions. Monitoring documents the BLM's and USFS's progress toward full implementation of the land use plan and the achievement of desired outcomes.

The regulations in 43 CFR 1610.4-9 and 36 CFR 219.12 require that land use plans establish intervals and standards for monitoring and evaluations based on the sensitivity of the resource decisions involved. Additionally, BLM Manual 6220 requires that land use plans for national monuments analyze and consider measures to ensure that objects and values are conserved, protected, and restored. Specifically, plans must include a monitoring strategy that identifies indicators of change, methodologies, protocols, and time frames for determining whether desired outcomes are being achieved.

Giving consideration to staffing and funding levels, monitoring will be prioritized consistent with the goals and objectives of the RMP in cooperation with local, State, and other Federal agencies.

### 1. MITIGATION

The BLM and USFS will consider appropriate mitigation methods as described by the Council on Environmental Quality (definition below) and will employ mitigation consistent with law and agency policy.

- *Avoidance* is defined as those measures that result in a potential impact not occurring from the outset by not taking a certain action or parts of an action. The RMP alternatives identify a range of potential avoidance measures. Examples of avoidance measures are withdrawn areas, closures, and exclusion areas.
- *Minimization* occurs through limiting the degree or magnitude of the action and its implementation. The RMP alternatives identify multiple potential minimization options for a variety of projects and land uses. Examples of minimization are facility placement, timing of activities, facility design, and interim reclamation.
- *Rectification* is the repairing, rehabilitating, or restoring of the affected environment. This approach is more action-specific. An example might be the reclamation of an abandoned mine location.

- *Reduction* of impacts involves preservation and maintenance operations during the life of the proposed project to be mitigated. This approach is more design-specific. An example might be a phased development and reclamation project design or a similar approach to a related impact on the landscape.
- *Compensation* can occur if, after applying avoidance and minimization techniques, residual impacts remain. Residual impacts are defined as any reasonably foreseeable impacts from a proposed project that are expected to remain after implementing the avoidance, minimization, rectification, and reduction elements of the mitigation hierarchy. These impacts are those that will continue until the benefits of the mitigation measure are fully realized on the ground. Compensation could include discussion of impact valuation, compensatory mitigation options, siting, compensatory project types and costs, monitoring, reporting, and fund administration.

The RMP prioritizes the avoidance of impacts, followed by minimization techniques, which generally include rectification and reduction.

## **2. ADAPTIVE MANAGEMENT**

The RMP will be implemented using adaptive management processes. Under adaptive management, decisions, plans, and proposed activities are treated as working hypotheses rather than final solutions. For the purposes of this plan, adaptive management is a process that tests, evaluates, and adjusts the assumptions, objectives, actions, and subsequent on-the-ground results from the implementation of RMP decisions. Used effectively, adaptive management provides resource managers with the flexibility to respond quickly and effectively to changing resource and user conditions. Changes in management actions are based on site-specific resource monitoring and evaluation.

The intent of adaptive management is to allow future management actions, as applied through resource management guidelines, to fully incorporate the knowledge and experience gained up to that time from monitoring, evaluation, and experimentation. However, adaptive management does not relieve managers of their responsibilities to consider the effects to the human environment of actions proposed under the guise of adaptive management. Managers would still be required to comply with the provisions of NEPA and other applicable laws, regulations, and policies before such actions are applied. Certain actions proposed as adaptive management techniques may require an amendment to the RMP before they could be implemented.

BLM's and USFS's guidelines assure that constraints established in the RMP are consistently applied when management methods and practices are used to meet plan objectives. Examples of guidelines are the livestock grazing guidelines required by 43 CFR 4180, "Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration." Guidelines that already exist for many programs and uses will be adopted as-is when reviews show them to be applicable to the planning area. New site-specific guidelines will also be developed as necessary. The adaptive management process is a continuous cycle through the following four phases:

- **Planning:** Management guidelines, actions, and objectives are developed. Monitoring techniques and adjustment thresholds are designed based upon available information, past monitoring information, and current scientific information.

- **Implementation:** Objectives, guidelines, actions, and constraints developed and identified during planning processes at all scales are applied as on-the-ground management.
- **Monitoring:** Monitoring includes all efforts to document the current state of implementation, the resulting resource conditions as measured through indicators, and the effectiveness of the implementation. Monitoring is derived from existing data and techniques, is outcome based, technically feasible, affordable, and operationally attainable. Two types of monitoring occur:
  - **Implementation monitoring:** Determines whether the decisions and proposed actions developed during planning are actually being implemented.
  - **Effectiveness monitoring:** Determines whether implemented decisions and actions have changed resource condition indicators. If so, determines whether the changes in the indicators are consistent with meeting the objectives.

When additional monitoring is required to fill information gaps, standardized monitoring techniques will be used where available before new techniques are developed. The BLM and USFS staff, supported by technical experts in the RGFO and Salida Ranger District, will be responsible for developing monitoring and adaptive management protocols and ensuring that documentation is sufficient to facilitate feedback into the adaptive management process.

- **Modification Evaluation:** The part of the process through which specific objectives, actions, monitoring thresholds, and even resource condition indicators may be modified to better meet the goals of the plan.
- **Timing Evaluation:** Determines the need for and time frames during which changes to planning, implementation, and monitoring should occur. The BLM and USFS staff will also be responsible for ensuring that monitoring results and other new information is compiled and evaluated in accordance with the two evaluation phases.

Monitoring will determine whether or not planning objectives are being met and ensure that BLM and USFS meet the goals and objectives set in the plan. The information developed through monitoring will feed the evaluation process and may alter decisions or the timing of decisions, change implementation, or maintain current management direction.

The key step in developing a monitoring strategy is to define the questions that must be answered to evaluate the attainment of the broad-scale management goals and objectives in the RMP. These questions will be used to focus monitoring on appropriate issues and avoid gathering irrelevant information. Focused monitoring also helps to keep costs within agency budgets.

The first step is to select key monitoring elements and indicators that can be effectively sampled and can provide desired data at a reasonable cost. A standard set of core data elements will be collected. Core data, including data necessary to evaluate achievement of the applicable BLM “Colorado Public Land Health Standards” (BLM 1997), are the minimum set of variables to be collected at all scales. The BLM and USFS will devise standardized measurement and reporting protocols because consistency is essential. Where possible, monitoring protocols will be designed to integrate existing monitoring efforts and will address multiple questions. Also, the design will have the flexibility to add any data elements required to answer new questions raised during subsequent site-specific planning.

Determining the specific monitoring approach for any question requires knowledge of detailed information on existing conditions. For example, trend assessment first requires gathering baseline or status information. A few of the projects that have occurred or may occur during implementation of the RMP are landscape scale vegetation assessments; overviews for paleontology, history, and archaeology; surveys for special status species; collection of meteorological data at weather stations; and visitor use inventories. Data from these projects will be vital for monitoring trends. A monitoring strategy must also identify the techniques needed to acquire a complete picture of the structure and pattern of a resource (e.g., remote sensing, sample-based studies, modeling).

A monitoring system requires the development and use of indicators and thresholds based on guidelines. Thresholds are measurable indicators of when a change in management needs to be made. The monitoring section of this appendix identifies the indicators, thresholds, and remedial actions.

The BLM and USFS uses evaluations to review implementation of the RMP at several levels to see whether management goals and objectives are being met and determine whether management direction is sound. The BLM and USFS evaluates management actions to determine whether they are consistent with thresholds established for the achievement of the objectives. If they are not, the evaluation identifies the reasons. The conclusions are then used to make recommendations on whether to continue current management guidelines, to make changes in management practices to meet plan goals and objectives, or to amend the plan objectives or decision to better meet the capabilities of the land and the intent of the governing laws.

### **3. MONITORING**

Monitoring would be applied across the monument unless a specific geographic location is specified in the “Objectives” column below, or a specific agency is identified under the “Agency” column.



Agency	Objective	Monitoring/Evaluation Standard	Procedure	Unit of Measure	Frequency and Time Frame	Remedial Action Threshold	Remedial Management Action
<b><i>Air Quality (National Ambient Air Quality Standards [NAAQS])</i></b>							
BLM/USFS	Ensure that BLM and USFS authorized actions provide for compliance with applicable State and Federal air quality standards and regulations. <sup>1</sup>	NAAQS and the Colorado Ambient Air Quality Standards.	Yes, Federal reference, others.	Micrograms per cubic meter, parts per billion, parts per million.	Unknown, but in general, NAAQS monitors represent longer-term investments due to their high initial cost. The frequency is in accordance with the methods employed. Annually, or as needed to comply with NEPA.	NAAQS violation, or other statute (ex: General Conformity) for areas not currently meeting the NAAQS. Quasi-cumulative thresholds for field office wide program element projections do not exist, but will be evaluated on a case-by-case basis with interested stakeholders (Air Quality Memorandum Of Understanding, etc.) during the RMP process and subsequent project level implementation.	Follow the <i>Comprehensive Air Resource Protection Protocol</i> (BLM 2015) and NEPA methods to identify and implement effective mitigation options for the attribute of concern at the scale appropriate for applying the mitigation.
<b><i>Air Quality Related Values (AQRVs) (Deposition, Visibility, W126)</i></b>							
BLM/USFS	Ensure BLM and USFS authorized actions do not adversely affect Federal- and State-mandated Class I areas, or Federal Land Manager specified sensitive Class II areas. <sup>2</sup>	For AQRVs, the Federal Land Managers’ AQRV Work Group 2010 guidance document provides for the data analysis thresholds for project levels. The critical loads established would be applicable at the cumulative project/planning levels. For visibility, the BLM and USFS will use the best and worst 20% visibility days at Class I areas as a comparative approach for assessing cumulative visibility impacts at the planning/ project level.	Yes, Federal reference, others.	Deciview, standard visual range, kilograms per hectare per year.	Unknown, but in general, Class I area monitors represent longer-term investments due to their high initial cost or the value of the long-term trend data that is established to help or show that Federal Land Managers are meeting the goals required by the CAA. The frequency is in accordance with the methods employed. Annually, or as needed to comply with NEPA.	For project level analysis, the AQRV attributes will be compared to the data analysis thresholds. Quasi-cumulative thresholds for field office wide program element projections do not exist, but will be evaluated on a case-by-case basis with interested stakeholders (Air Quality Memorandum of Understanding, etc.) during the RMP process and subsequent project level implementation.	Follow the <i>Comprehensive Air Resource Protection Protocol</i> (BLM 2015) and NEPA methods to identify and implement effective mitigation options for the attribute of concern at the scale appropriate for applying the mitigation.
<b><i>Soil Erosion - Uplands</i></b>							
BLM/USFS	Soil erosion from upland locations will be maintained at natural background levels as measured by maintaining appropriate desirable ground cover, as defined given ecological site description or other reference. Where management actions take place, all areas undergoing reclamation would achieve ground cover equaling the pre-disturbance conditions within five growing seasons.	Natural Resources Conservation Service Ecological Site Description or other standard, such as, range site description, when ecological site descriptions don’t exist.	BLM Assessment, Inventory and Monitoring (AIM) Protocol, USFS Forest Soil Disturbance Protocol-GTR-WO-82b, etc. (line transect, etc.).	Percent groundcover.	Visit sites of concern at least once per growing season until appropriate groundcover is achieved 5 years from management activity completion.	Ground cover does not represent background or pre disturbance conditions.	Change in management activity or reclamation procedures.
<b><i>Soil Erosion – Streambanks, Riparian Areas, and Floodplains</i></b>							
BLM/USFS	Stream banks, riparian areas and floodplains will be stable and function similarly to a reference reach or expected condition, and will not experience more than a 10% loss of stream bank, channel bed degradation or aggradation (same as: Water – Streambank or channel alteration). Priority areas would include category I and M grazing allotments and rafter put-in and take-out sites.	Reference reach or baseline condition.	Visual observation, photo points, Aquatic AIM protocol, and surveyed erosion pins.	Width/depth ratio, Bank Erosion Hazard Index and Near Bank Stress, confinement, inches, acres, etc., based on procedures used.	Once every 5-7 years based on priority watersheds and activities for the life of the plan.	Visual evidence of active headcutting, width/depth ratios beyond reference conditions, or bank slump. Ten percent increase in streambank loss, channel bed degradation, or aggradation.	Adjust or discontinue management activity or mitigation to remove or lessen impact.
<b><i>Soil Resources – Compaction</i></b>							
BLM/USFS	The acres of compacted soils (roads, etc.) attributed to management will not increase by more than 5% in a sixth level watershed and individual areas would not have compacted areas exceeding 10% of surface disturbance. Increases greater than 5% could be acceptable if mitigation is shown that would minimize or eliminate offsite impacts to the watershed as a whole.	Undisturbed reference site.	Visual inspection, aerial photos, penetrometer, or ratio of penetration resistance or bulk density to that of the reference area, USFS Forest Soil Disturbance Protocol-GTR-WO-82b.	Pounds per square inch, mass per volume.	Review of total acres of compacted soils at the watershed scale would be conducted every 5–7 years. Individual sites would be examined 1–2 times annually for the life of the plan.	When an increase in compacted area is greater than 5% in a 6th level watershed. When an area has a 10% increase in density or ratio of penetration resistance or bulk density to that of the reference area greater than 1 and the compacted area exceeds 10% of surface disturbance.	Evaluate watershed impacts of compacted area percentage, if impacts are minimal or can be eliminated, increases greater than 5% would be acceptable.  Decompact or close access to specific compacted site until area recovers. Rehabilitate and decompact areas offsite of specific management activities to mitigate watershed level impacts.

Agency	Objective	Monitoring/Evaluation Standard	Procedure	Unit of Measure	Frequency and Time Frame	Remedial Action Threshold	Remedial Management Action
<b>Soils - Rutting</b>							
BLM/USFS	Limit soil rutting caused by management activities to 4 inches in depth. Roads and trails with ruts over 4 inches deep would be evaluated for resource impacts and actions would be taken to address resource impacts.	Undisturbed reference site.	Visual observation and measured depth of rut, USFS Forest Soil Disturbance Protocol-GTR-WO-82b.	Inches.	During project implementation, immediately after precipitation events until soil conditions are more favorable. Continuous for overall rutting for the life of the plan.	Ruts created by management activities exceed 4 inches in depth. Ruts greater than 4 inches deep that are directly resulting in damage to resources (route spread, direct sedimentation to waterways).	Close access to rutted site until soil conditions are not susceptible to rutting. Rutted area repaired.
<b>Water Quality – Surface Water</b>							
BLM/USFS	Water quality will be maintained to meet State of Colorado water quality standards or better and improvements will be made on segments that are not meeting standards where BLM and USFS-administered surface lands contribute to degradation. The BLM and USFS will coordinate and participate on locally developed source water protection planning efforts and integrate BMPs to protect water quality interests.	Colorado Water Quality Control Commission 305(b) Report.	CDPHE or Environmental Protection Agency Water Quality Monitoring Protocol.	Milligrams per liter; micrograms per liter; degrees Fahrenheit; etc., as determined by the 305(b) report.	Based on activity plan schedule for the life of the plan.	Exceedance of any parameter above the State of Colorado surface water quality standards or identified BLM/USFS thresholds.	Modify or discontinue actions resulting in water quality degradation, implement actions to improve water quality.
<b>Water Quantity – Surface Water</b>							
BLM/USFS	BLM and USFS will work with partners, including the State of Colorado Water Resources Division, to attain flow protections for resource needs, such as, riparian habitat, stock watering, minimum flows, channel maintenance flows for geomorphological processes, recreational flows, and approximating a natural hydrograph. <sup>3</sup>	Colorado Division of Water Resources gaged sites, CDPHE.	Discharge measurement, gauging station.	Cubic feet per second, gallons per minute.	Throughout the year when flow quantities are a concern for the life of the plan.	Resources are impaired or could be impaired by flow management.	Identify alternatives and methods to protect or enhance resources based on the situation.
<b>Water – Streambank or Channel Alteration</b>							
BLM/USFS	See <i>Soil Erosion – Streambanks, Riparian Areas, and Floodplains</i>						
<b>Terrestrial Wildlife - Wildlife Habitat Condition</b>							
BLM/USFS	Manage BLM-administered surface lands within the BCNM to meet BLM Standards for Public Land Health-Standard 3. The objective is for 90% of BLM-administered surface lands to meet BLM <i>Colorado Public Land Health Standards</i> -Standard 3 (BLM 1997). Manage USFS-administered surface lands within the BCNM to meet USFS Desired Condition. Sampling may be stratified to focus on priority habitat (i.e., bighorn winter concentration area	Standard will be based upon BLM <i>Colorado Public Land Health Standards</i> -Standard 3 (BLM 1997) and USFS Desired Condition criteria and/or ecological site inventories, Range/Ecological Site Descriptions, soils, completed Land Health Assessments, and site-specific management objectives.	Variables to be measured may include, but are not limited to the amount of bare ground, vegetation composition, nonnative invasive species, vegetation height, and proportion of site in large inter-canopy gaps.	The percentage of BLM-administered surface lands meeting the BLM <i>Colorado Public Land Health Standards</i> (BLM 1997) and percentage of USFS-administered surface lands meeting USFS Desired Condition.	Plots will be measured every 3–5 years and monitoring will occur during the growing season.	Any condition that fails to meet the Land Health Standard-Standard 3 or USFS Desired Condition.	Change in action location, change in season of use, vegetation treatments, or condition of approvals.
<b>Terrestrial Wildlife – Important Sites for Raptors and Big Game</b>							
BLM/USFS	Conduct and maintain current inventories of nesting raptors and big game on BLM and USFS-administered surface lands to evaluate actions undertaken.	Action specific baseline.	Individual site surveys. Data may be collected by BLM, USFS, or outside sources (e.g., Colorado Natural Heritage Program, CPW, Bird Conservancy of the Rockies).	Number of active raptor nests and young fledged, population of the mule deer herd, etc.	Monitoring will be tied to yearly planning or based upon project specific needs. Monitoring will be conducted during the active/reproductive period for the target species. Monitoring will occur pre- and post-actions undertaken.	Decrease in the number of active raptor nests and young fledged, decrease in the number of young-of-the-year mule deer etc.	Change in action location, change in seasonal restrictions, change in no use buffer, vegetation treatments, or condition of approvals.

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<b>Terrestrial Wildlife – Seasonal Use Restrictions</b>							
BLM/USFS	Ensure that recreationists are adhering to seasonal use restrictions and seasonal area restrictions so that at-risk wildlife populations are maintained and the desired future conditions are met.	Action specific baseline.	Individual site surveys. Data may be collected by BLM, USFS, or outside sources (e.g., Colorado Natural Heritage Program, CPW, Bird Conservancy of the Rockies).	Presence or absence of large group events within 0.5 mile of prairie or peregrine falcon nests between March 15 and July 31; presence or absence of rock climbers within bighorn sheep summer use area along the river from May 15 to July 14, etc.	Sensitive wildlife areas will be spot-checked during the various seasonal restriction times.	Recreationists are not following seasonal use restrictions for sensitive wildlife species (or evidence of nest abandonment or other impact indicators).	Consider new enforcement or education methods.
<b>Aquatic Wildlife – Sensitivity of Flood Risk to Infrastructure</b>							
BLM/USFS	Within 15 years, 25% of unnecessary, existing infrastructure will be removed or relocated out of floodplains.  For all categories of wetlands (riparian, ponds, springs, playas, fens, etc.), strive to prevent new, and remove aged and outdated unused infrastructure, dumps, etc., placed such that damage from extreme flood events within floodplains or flood prone areas is possible (excluding fences necessary for grazing needs and infrastructure such as diversions designed to resist flooding).  Necessary infrastructure otherwise will needs to be designed with flood recognition and flood preventative measures.	Where infrastructure is known or located, develop databases to track location, need, whether infrastructure can be removed, and track associated project information.	Monitor within databases and prioritize potential removal project based upon needs, staffing, and budget.	If completed.	Ongoing for the life of the RMP.	N/A.	Infrastructure avoidance or removal as deemed appropriate.
<b>Aquatic Wildlife – Aquatic Habitat Condition</b>							
BLM/USFS	90% of riparian areas will be managed in at least PFC. Riparian and health will be a partial surrogate indicator for aquatic health and further supplemented by AIM or other monitor protocol. Riparian and wetland resources will move towards an advanced succession seral stage. Areas outside of special designation but recognized as Potential Conservation Areas, Critical habitat for Endangered Species or Special Status species will also be managed to advanced seral stage conditions where practical.	BLM Standard 2, Riparian Land Health Standard. BLM Standard 3: Healthy, productive plant and animal communities.	PFC, Multiple Indicator Monitoring, AIM Monitoring Protocol, and other standard Aquatic Habitat Assessment measurement techniques.	Stream/wetland health determination.	Priority will be based upon the magnitude of issues, or relative importance to the area.	Any conditions found at less than PFCs.	Variable depending upon causative agent.
<b>Wetlands and Riparian Resources – Water Quantity</b>							
BLM/USFS	Work with partners, including the State of Colorado Water Resources Division, to attain flow protections for aquatic resource needs, such as, riparian habitat, stock watering, minimum flows, channel maintenance flows for geomorphological processes, recreational flows, and approximating a natural hydrograph.	Complete tabulation of resources, with water rights processing, data maintained on when and where done.	Input and maintain in water rights database.	Notation if needed, if completed, etc., into existing databases.	Until completed, modified with exchanges, new information, etc.	N/A.	N/A.
<b>Wetlands and Riparian Resources – Floodplains and Infrastructure</b>							
BLM/USFS	See <i>Aquatic Wildlife – Sensitivity of Flood Risk to Infrastructure</i>						
<b>Wetlands and Riparian Areas – Riparian Condition</b>							
BLM/USFS	90% of riparian areas will be managed in at least PFC. Riparian and wetland resources will move towards an advanced succession seral stage.	BLM Standard 2, Riparian Land Health Standard.	PFC, Multiple Indicator Monitoring, AIM Monitoring Protocol, and other standard Aquatic Habitat Assessment measurement techniques.	Riparian/wetland health determination.	Priority will be based upon the magnitude of issues, or relative importance to the area.	Any conditions found at less than PFCs.	Variable depending upon causative agent.

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<b>Vegetation – Grass/forb Upland Communities</b>							
BLM/USFS	Meet the BLM <i>Colorado Public Land Health Standards</i> (BLM 1997). Livestock grazing will not be a causal factor in preventing I & M category allotments from meeting the BLM <i>Colorado Public Land Health Standards</i> (BLM 1997). Take into account site potential as determined by ecological site inventories, Range/Ecological Site Descriptions, soils, completed Land Health Assessments, and site-specific management.	Ecological site descriptions, other range site descriptions, or other internal base line data, including but not limited to grazing utilization, cover frequency transects, photo points.	May include one or more of the following: visual observation, photos, trend, PFC, AIM, land health evaluation, grazing utilization, compliance, and actual use.	Plant cover, diversity, composition, community health and vegetation.	BLM: Varies, designed to address objectives such as annual utilization, compliance, and actual use on high priority allotments. Evaluate during permit renewals or when monitoring data indicate a change is warranted. At grazing term permit renewal or every 10 years or when monitoring data indicates a change in management is warranted for high priority allotments.  USFS: Prior to grazing term permit renewal.	Failure to meet Rangeland Health Standards or trend moving away from management objectives.	Change in livestock season-of-use, timing, intensity, frequency, duration, vegetation treatments and seeding.
<b>Vegetation – Forest Vegetation</b>							
BLM/USFS	Use of repeat photography and stand density measurements will be used to determine long-term effectiveness of all forestry treatments, as well as for public education/outreach.	Ecological site descriptions.	May include one or more of the following: visual observation, photos, trend, and land health evaluation.	Repeat photography, witness tree species, diameter.	One-time pre-treatment monitoring and post-treatment monitoring every 5 years.	Failure to meet BLM <i>Colorado Public Land Health Standards</i> (BLM 1997) or trend moving away from management objectives.	Follow-up treatment evaluation.
<b>Forestry – Productive Forestland and Low-Productivity Woodlands</b>							
BLM/USFS	Productive forestland will be maintained to meet BLM <i>Colorado Public Land Health Standards</i> (BLM 1997), provide for sustained yield, and managed using the Forestry Best Management Practices to Protect Water Quality in Colorado (Colorado State Forest Service 2010). Low productivity woodlands will be maintained, monitored, and managed to meet BLM <i>Colorado Public Land Health Standards</i> (BLM 1997).	Forest Vegetation Information System.	Photo interpretation, walk-through surveys, and plot measurements as required by the Forest Vegetation Information System.	Tree data (diameter at breast height, height, trees per acre, species, crown ratio, defect, and presence of insect/disease), repeat photography, and stand density measurements will be used to maintain current inventory and determine long-term effectiveness of forestry treatments.	Throughout the life of the plan, average annual inventory of 500 acres, one-time pre-treatment monitoring, and ongoing post- treatment monitoring 5 years from management activity completion.	Failure to meet BLM <i>Colorado Public Land Health Standards</i> (BLM 1997) or trend moving away from management objectives.	Evaluation for follow up treatment.
<b>Vegetation - Infestations</b>							
BLM/USFS	Prevent new infestations and reduce the acreage of A list noxious species and limit the expansion of B list species. Treatment in BCNM would occur annually in priority infestations. A list species would be treated first, followed by B list species (including but not limited to; yellow toadflax, various knapweeds, and leafy spurge) as funding allows. <sup>4</sup>	Colorado Noxious Weed List ( <a href="https://www.colorado.gov/pacific/agconservati on/noxiousweeds">https://www.colorado.gov/pacific/agconservati on/noxiousweeds</a> ).	Photo points, geographic information systems data, mapping.	Infestation size, presence, or absence. Emphasis placed on human traffic vectors (foot, horse, and watercraft are primary focus vectors)	On an as-needed basis and prioritized by species location and treatment method.	Expansion of A list and high priority B list weeds, new infestations in areas of high public use and publicly accessible areas, and new infestations in other areas where proliferation is likely.	Treatment method efficacy will be monitored. Change in control method or combine control methods and strategies.
<b>Special Status Species – Occupied Habitat, Important Sites, and Population Trends</b>							
BLM/USFS	Conduct and maintain current inventories of BLM special status species on BLM-administered surface lands as described in BLM Manual 6840-Special Status Species Management and FSM Chapter 2670. Determine, to the extent practicable, the distribution, abundance, population condition, current threats, and habitat needs for sensitive species and evaluate the significance of actions undertaken by the BLM and USFS in the conservation of those species where these agencies have discretion.	Resource area baseline.	Individual site surveys, occupied habitat mapping, or statistically valid trend analysis (e.g., occupancy, line intercept). Data may be collected by BLM, USFS, or outside sources (e.g., Colorado Natural Heritage Program, CPW, Bird Conservancy of the Rockies, BioBlitz efforts).	Acres of occupied habitat, count data (e.g., number of active raptor nests and young fledged, number of bighorn sheep) population trend (increasing, decreasing, or stable), etc.	Trend studies will be monitored every 3-5 years until the species is no longer designated a special status species. Other monitoring will be tied to yearly planning or based upon project specific needs. Monitoring will be conducted during the active/reproductive period for the target species.	Decrease in acres of occupied habitat, decrease in the number of active raptor nests and young fledged, decrease in population trend, etc.	Change in action location, change in seasonal restrictions, change in no use buffer, vegetation treatments, reintroductions, disease management, stipulations, or condition of approvals, offsite mitigation.



Agency	Objective	Monitoring/Evaluation Standard	Procedure	Unit of Measure	Frequency and Time Frame	Remedial Action Threshold	Remedial Management Action
<b>Wildland Fire and Fuel Management – Vegetation Condition Class (VCC) and Vegetation Departure (VDEP)</b>							
BLM/USFS	To restore VCC classes II (a&b) and III (a&b) towards Class I (a&b) and maintain areas of VCC I (a&b).  To meet BLM <i>Colorado Public Land Health Standards</i> (BLM 1997).  To improve landscape resiliency and response to natural disturbance.  To monitor departure of current vegetation conditions on a landscape from estimated historical conditions.	VCC is the general level to which current vegetation is different from the simulated historical vegetation reference conditions.  VDEP uses the following data: LANDFIRE mapping product utilizing the following VDEP factors: <ul style="list-style-type: none"><li>• LANDFIRE Mapped Current Conditions: (Sclass)</li><li>• Estimated Reference Conditions: LANDSUM output, parameterized by BpS models</li><li>• Included Types: Natural Vegetation Only</li><li>• Landscape Summary Unit: Map Zones and ECOMAP Subsections</li></ul>	N/A.	VCC Ia: Very Low, VDEP 0-16 VCC Ib: Low, VDEP 17-33 VCC IIa: Moderate to low, VDEP 34-50 VCC IIb: Moderate to high, VDEP 51-66 VCC IIIa: High VDEP 67-83 VCC IIIb: Very High, VDEP 84-100	With every LANDFIRE refresh.	N/A.	N/A.
<b>Wildland Fire and Fuel Management – Fuels</b>							
BLM/USFS	Conditions relative to Land Use Plan described objective: <ul style="list-style-type: none"><li>• To improve understory conditions for improved forage for livestock and wildlife (increased cover and composition of desirable grasses, forbs, and browse species).</li><li>• To improve fuel loading conditions (reduce or change arrangement).</li><li>• To reduce the number of stems/acre, to raise crown base height.</li><li>• To monitor Emergency Stabilization and Burned Area Rehabilitation treatment effectiveness.</li></ul> Improve vegetative conditions by implementing treatments to improve understory conditions and fuel loading, reduce the number of stems per acre, and raise crown base height, along with post-fire stabilization and rehabilitation. Use Fire Ecology Assessment Tool.	<ul style="list-style-type: none"><li>• Recommended AIM protocols and FFI methods including (Point Intercept (% herbaceous cover), Line Intercept (% shrub cover), Fuel Loading (Modified Brown’s Transect), Tree Data (diameter at breast height, height, count, species, livecrown base height, tree health etc.), Duff/Litter Measurements, photo-points.</li><li>• Ecological Site Descriptions (see range and vegetation).</li><li>• Range Site Descriptions (see range and vegetation).</li></ul>	FFI Methodology or other accepted protocol (included those related to AIM strategy).	% cover (shrub, grass, forb), diversity, composition, tons/acre (1, 10, 100, 1000 hour fuels), trees/acre (by species and size class), diameter at breast height, live crown base height, tree status (healthy, unhealthy), photo points methodology and data collected can vary depending on treatment goals and objectives.	Pre-treatment, Post-Treatment, 1, 3, 5, and 10-year post treatment (schedule is subject to change depending on timing of treatment, or if maintenance treatments or prescribed fire treatments occur).	N/A.	<ul style="list-style-type: none"><li>• Maintenance treatments to keep desired conditions.</li><li>• Adjustment of treatment prescription.</li></ul>
<b>Cultural Resources – Non-section 106 Monitoring</b>							
BLM/USFS	Monitor historic properties that are subjected to ongoing threats.	History Colorado Survey Manuals, BLM 8100 manual series, Secretary of the Interior’s Standards and Guidelines, BLM Colorado Handbook of Guidelines and Procedures for Inventory, Evaluation, And Mitigation of Cultural Resources.	Area inspection to look for vandalism, resource abuse, and natural degradation. Completion of monitoring form.	Number of sites monitored annually.	Annually and indefinitely or until a determination is made that monitoring is no longer necessary.	Observable degradation.	Halt activity affecting sites, evaluate damage, and apply mitigation or restoration/remediation as appropriate. Possibly close areas surrounding site to prevent further disturbance to cultural resources. Increase frequency of monitoring of nearby sites.
<b>Tribal Uses – Protection and Management of Tribal Traditional Ecological Areas, Sacred Sites, and Traditional Cultural Properties</b>							
BLM/USFS	To protect and manage Tribal areas of concern as they are identified.	Archaeological protection procedures (History Colorado Survey Manuals, BLM 8100 manual series, Secretary of the Interior’s Standards and Guidelines, BLM Colorado Handbook of Guidelines and Procedures for Inventory, Evaluation, And Mitigation of Cultural Resources).	N/A.	Number of sites protected and managed.	Annually and indefinitely.	N/A.	N/A.

Agency	Objective	Monitoring/Evaluation Standard	Procedure	Unit of Measure	Frequency and Time Frame	Remedial Action Threshold	Remedial Management Action
<b>Visual Resources – BLM Resource Management Class I Areas</b>							
BLM	The objective of Class I is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.	Direct/Indirect: See Form 8400-4 Contrast Rating Form.  Cumulative: See BLM Manual H-8410-1 VRI, Scenic Quality.  See also the Wilderness section of this table.	Direct/Indirect: Identify key observation points, evaluate proposal using Contrast Rating Form, determine degree of contrast with key elements (form, line, color, texture).  Cumulative: Follows Scenic Quality Inventory and Evaluation Chart (Form 8400-1) to determine Scenic Quality Classification; focus primarily on impacts that cultural modifications play on the characteristic landscape.  See also the Wilderness section of this table.	Photo points; visual contrast rating form.  Photo points; Form 8400-1; Scenic Quality Inventory and Evaluation Chart.  See also the Wilderness section of this table	As projects are proposed within VRM Class I areas. Follow-up on projects to determine if VRM Class objectives are still being met. Update inventory as necessary.  Every 5 years to determine if cumulative cultural modifications are having an impact on the characteristic landscape in VRM Class II areas.  See also the Wilderness section of this table	Unanticipated or unacceptable effects of conflicts occurring. See also the Wilderness section of this table	Require mitigation; require reclamation/remediation. See also the Wilderness section of this table
<b>Visual Resources – BLM Visual Resource Management Class II Areas</b>							
BLM	Retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	Direct/Indirect: See Form 8400-4 Contrast Rating Form.  Cumulative: See BLM Manual H-8410-1 VRI, Scenic Quality.	Direct/Indirect: Identify key observation points, evaluate proposal using Contrast Rating Form, determine degree of contrast with key elements (form, line, color, texture).  Cumulative: Follows Scenic Quality Inventory and Evaluation Chart (Form 8400-1) to determine Scenic Quality Classification; focus primarily on impacts that cultural modifications play on the characteristic landscape.	Photo points; visual contrast rating form.  Photo points; Form 8400-1; Scenic Quality Inventory and Evaluation Chart.	As projects are proposed within VRM Class I areas. Follow-up on projects to determine if VRM Class objectives are still being met. Update inventory as necessary.  Every 5 years to determine if cumulative cultural modifications are having an impact on the characteristic landscape in VRM Class II areas.	Unanticipated or unacceptable effects of conflicts occurring.	Require mitigation; require reclamation/remediation.
<b>Visual Resources – BLM Visual Resource Management Class III/IV Areas</b>							
BLM	The objective of Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.  The objective of Class IV is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.	Direct/Indirect: See Form 8400-4 Contrast Rating Form.  Cumulative: See BLM Manual H-8410-1 VRI, Scenic Quality.	Identify key observation points, evaluate proposal using Contrast Rating Form, and determine degree of contrast with key elements (form, line, color,texture).	Photo points; visual contrast rating form.	As projects are proposed within VRM Class III and IV areas. Follow-up on projects to determine if VRM Class objectives are still being met. Update inventory as necessary.	Unanticipated or unacceptable effects of conflicts occurring.	Require mitigation; require reclamation/remediation.

Agency	Objective	Monitoring/Evaluation Standard	Procedure	Unit of Measure	Frequency and Time Frame	Remedial Action Threshold	Remedial Management Action
<b>Visual Resources – USFS Scenery Management System – Landscape Character and Scenic Integrity (1-Implementation Monitoring/2-Effectiveness)</b>							
USFS	<p>The objective of landscape character monitoring is to determine if the landscape character goal is being met or is moving toward the desired character over time.</p> <p>To determine if the scenic integrity levels for projects adopted within the management area are being achieved.</p> <p>Determine if the cumulative effects of all resource activities within a viewshed are meeting the integrity level standards.</p>	USFS Handbook 701 - Landscape Aesthetics – A Handbook for Scenery Management	<p>Identify through field review the percentage of vegetation (or other elements in the landscape character) that is moving towards the landscape character goal.</p> <p>Scenic Integrity:</p> <p>1. Identify through field review a sample of projects within the range of integrity levels. Sampling intensity should increase with the level of scenic integrity objective.</p> <p>2. Determine the percentages of each integrity level being met within each viewshed. Determine if the percentages are consistent with Management Plan or Forest Plan.</p>	<p>Percent of acres</p> <p>Scenic Integrity:</p> <p>1. Identify total projects within each viewshed or geographic area, including how many and what percent were monitored. Of those monitored, how many and what percent met the scenic integrity standard for the area.</p> <p>2. Total acres in each viewshed that are consistent with Management Plan or Forest Plan.</p>	<p>1-5 years following project implementation or through continual constituent analysis process determining such things as the landscape character preferred by people.</p> <p>Scenic Integrity:</p> <p>1. Implementation monitoring is done through spot-checking the scenic integrity level activities 1 year after completion to see if they are in compliance with Management Plan or Forest Plan.</p> <p>2. Validation is addressed through a continual analysis process, determining such as the lowest level of scenic quality acceptable to people.</p>	Unanticipated or unacceptable effects of conflicts occurring.	Require mitigation; require reclamation/remediation.
<b>Lands with Wilderness Characteristics – Wilderness Characteristics Criteria (Wilderness characteristics criteria; natural, contiguous, outstanding opportunities for solitude and/or primitive and unconfined recreation, supplemental values)</b>							
BLM	Manage for primarily natural areas that are greater than 5,000 acres of contiguous lands or adjacent to areas managed for the protection of natural areas that have outstanding opportunities for solitude and/or primitive and unconfined recreation.	Unauthorized new disturbance.	Drive boundary roads, use Global Positioning System (GPS)/ photo point data to document new unauthorized disturbance. Identify changes that would maintain the report.	Unauthorized surface disturbance, authorized surface disturbance that exceeds long-term objectives.	Annually or to be determined by the IDT. Monitor for unauthorized new disturbance or when in area for other monitoring. Monitor following authorized activities to determine if long-term wilderness characteristic objectives are being met.	No new unauthorized ground disturbing activities, no long-term impacts from authorized activities that do not meet the objectives.	Require reclamation/remediation or possible civil or criminal action. Install signing, barriers, or other action to prevent reoccurrence of unauthorized ground disturbing activities.
<b>Recreation – Camping Use Levels and Trends, Unauthorized Impacts from Recreation Use – River Dispersed Camping</b>							
BLM	Understand use patterns and trends and minimize unauthorized impacts from casual use recreation (off-trail use, water quality, damage to resources and facilities) adjacent to the Arkansas River from just north of BCNM to Hecla Junction.	Expanded or new disturbances (barren soil, new fire rings, social trails), presence of trash.	Visual site inspections and photo points for dispersed camping sites.	Disturbed areas (barren soils), presence of fire rings, trash, new roads/trails.	Yearly. Late summer	Dramatic increase in use combined with an increase in occurrence of impacts from recreation use.	Evaluate cause of impacts and increase in use. Develop strategy to address.
<b>Recreation – Visitor Use Levels and Trends, Unauthorized Impacts from Recreation Use</b>							
BLM/USFS	Understand visitor use patterns and trends and minimize unauthorized impacts from casual use recreation (camping, off-trail use, damage to resources and facilities).	Traffic counts, new unauthorized disturbance (barren soil, new fire rings, social trails).	Install traffic counters in key areas; collect data twice per year or as needed. Patrol areas where recreation use is known to occur. Document impacts and issues using photo points and enter data into patrol log or similar database. Conduct visitor surveys.	Traffic count hits, disturbed areas (barren soils), presence of fire rings, trash, new roads/trails. Visitor activities, primary activity, expenditures by category	BLM: Annually as part of Recreation Management Information System updates. USFS: 4-year cycle as part of the National Visitor Use Monitoring.	Dramatic increase in use combined with an increase in occurrence of impacts from recreation use.	Evaluate cause of impacts and increase in use. Develop strategy to address.

Agency	Objective	Monitoring/Evaluation Standard	Procedure	Unit of Measure	Frequency and Time Frame	Remedial Action Threshold	Remedial Management Action
<b><i>Livestock Grazing – Ecological Conditions</i></b>							
BLM/USFS	BLM: Manage livestock grazing to achieve BLM <i>Colorado Public Land Health Standards</i> (BLM 1997) and desired conditions (USFS) on all livestock grazing allotments. Achieve meeting BLM <i>Colorado Public Land Health Standards</i> (BLM 1997) in 100% active improve (I) and maintain (M) category allotments by using BMPs for livestock grazing management. Where these land health standards and/or desired conditions are not being met and it has been determined that current livestock grazing is a causal factor, adjust the management to achieve standards.	Ecological site descriptions and other range site descriptions	Includes, but not limited to: Land Health Evaluation, trend studies (Daubenmire, line intercept, step point, point intercept) and PFC.	Plant cover, diversity, and composition; soil stability; biotic integrity & hydrologic function.	Varies: evaluate during permit renewals (BLM) or during environmental analysis for livestock grazing authorization (USFS) or every 10 years when monitoring data indicate a change is warranted.	Failure to meet Rangeland Health Standards or trend moving away from management objectives.	The authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year upon determining that existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards and conform with the guidelines (43 CFR 4180.2[c]).
<b><i>Livestock Grazing – Permit Administration</i></b>							
BLM/USFS	Compliance with terms and conditions of the permit within grazing allotments	Allowable use levels, actual use, and general permit compliance.	Includes, but not limited to: allotment compliance inspections, utilization studies, and actual use records.	Individual allotment within the monument.	For the term of the grazing permit, annual utilization monitoring, annual submission of actual use, annual inspection of the grazing allotment, and annual evaluation of compliance with terms and conditions of the permit.	Failure to comply with terms and conditions of the permit.	The authorized officer shall take appropriate action according to existing laws, regulations, and policies for administering grazing permits or leases.
<b><i>Travel and Transportation Management – Route Network</i></b>							
BLM/USFS	No new unauthorized routes are being created, including routes from dispersed camping (i.e., off of NFSR 185 into the BCNM), and implementation measures are effective and/or still in place.	Baseline route inventory.	Drive, hike, or ride designated roads, primitive roads, and trails. Use GPS to locate identified issues. Store data in a patrol log or similar database. Identify solution to issue and identify when solution has been implemented.	Feet of new routes, number of signs damaged/removed, number of feet of barriers installed/damaged.	Annually or as determined by the IDT. Before or after seasonal closures and/or during peak travel times.	New route being created, sign damaged or removed, barrier damaged or removed.	Install/replace signage and barrier as soon as practicable.
<b><i>Lands and Realty – Rights-of-Way</i></b>							
BLM/USFS	Ensure compliance with ROW grant terms and conditions.	Terms and conditions of ROW grants.	Site inspections, visual observations, aerial imagery.	Compliance inspection.	Reviews within 5 years of issuance for FLPMA authorizations, then in the 20th year after issuance and every	10 years thereafter; before release or collection of a bond; before renewal, termination, or relinquishment acceptance; or as required by specific terms and conditions in the ROW grant or regulations.	Non-use of the ROW or violations of ROW grant terms and conditions, or regulations.
<b><i>Lands and Realty – 2920 Land Use Permits, Leases, Easements (Title III of FLPMA), and other land use authorizations</i></b>							
BLM/USFS	Ensure compliance with permit, lease, easement, or land use authorization terms and conditions.	Terms and conditions of permits, leases, easements, or authorizations.	Site inspections, visual observations, aerial imagery.	Compliance inspections.	Minimum of once during, or for construction within 2 years of issuance; before release or collection of a bond; before renewal, termination, or relinquishment acceptance; or as required by specific terms and conditions in the lease or permit, or regulations.	Non-use of the lease or permit, or violation of lease or permit terms and conditions, or regulations.	Require compliance with lease or permit terms and conditions, or regulations, with possible suspension or termination for non-compliance or non-use.



Agency	Objective	Monitoring/Evaluation Standard	Procedure	Unit of Measure	Frequency and Time Frame	Remedial Action Threshold	Remedial Management Action
<b><i>WSRs – Maintenance of Outstandingly Remarkable Values, Free-flowing Conditions, and Water Quality</i></b>							
BLM	Preserve the recommended classification of each suitable segment by maintaining the level of development allowed under the recommended classification. In addition, maintain the free-flowing condition, water quality, and outstandingly remarkable values associated with suitable segments comprehensive administrative plan and/or strategy.	Per the guidance for WSRs in BLM Manual 6400.	Follow BLM Manual 6400 WSR procedures.	Per segment.	Annually or until Congress designates a segment(s) or releases them from further consideration.	Per BLM Manual 6400, when events or actions could trigger non-maintenance of outstandingly remarkable values, flow condition, or water quality.	Apply mitigations or restrictions to maintain segment classification.
<b><i>Wilderness Study Areas (WSAs) – Preservation of Wilderness Characteristics Criteria (Wilderness characteristics criteria; natural, contiguous, outstanding opportunities for solitude and/or primitive and unconfined recreation, supplemental values)</i></b>							
BLM	Manage and protect WSAs to preserve wilderness characteristics so as not to impair the suitability of such areas for designation by Congress as Wilderness.	Unauthorized new disturbance.	Drive boundary roads, GPS/photo point new unauthorized surface disturbance, identify invasive species, and document via monitoring form.	Unauthorized surface disturbance, authorized surface disturbance that exceeds long-term objectives.	Monthly Monitor areas once every 2 years for unauthorized new disturbance or when in area for other monitoring. Monitor following authorized activities to determine if long-term objectives are being met.	No new unauthorized ground disturbing activities, no long-term impacts from authorized activities that do not meet the objectives.	Require reclamation/remediation or possible civil or criminal action. Install signing, barriers, or other action to prevent reoccurrence of unauthorized ground disturbing activities.
<b><i>Roadless Areas – Roadless Area Conservation Values and Characteristics</i></b>							
USFS	Manage and protect Aspen Ridge CRA’s rich diversity of lower and mid-elevation plant and animal species and habitats consist with the 2012 Colorado Roadless Rule.	Unauthorized new disturbance and evaluation of the nine roadless area characteristics.	Drive designated routes along the boundary, monitor vegetation management projects, document new unauthorized routes into the CRA.	Unauthorized surface disturbance, authorized surface disturbance that exceeds long-term objectives.	Annually.	No new unauthorized ground disturbing activities, no long-term impacts from authorized activities that do not meet the objectives. New route being created, sign damaged or removed, barrier damaged or removed.	Require reclamation/remediation or possible civil or criminal action. Install signing, barriers, or other action to prevent reoccurrence of unauthorized ground disturbing activities. Install/replace signage and barrier as soon as practicable.

*Table Acronyms:* AIM=Assessment, Inventory and Monitoring; AQRV=Air Quality Related Value; BLM=Bureau of Land Management; CAA=Clean Air Act; CFR=Code of Federal Regulations; CPW=Colorado Parks and Wildlife; CRA=Colorado Roadless Area; FLPMA= Federal Land Policy and Management Act; GPS=Global Positioning System; IDT=interdisciplinary team; N/A=not applicable; NAAQS=national ambient air quality standards; NEPA=National Environmental Policy Act; NWSRS=National Wild and Scenic River System; PFC=Proper Functioning Condition; RMP=resource management plan; ROW=right-of-way; USFS=U.S. Forest Service; VCC=Vegetation Condition Class; VDEP=Vegetation Departure; VRI=Visual Resource Inventory; WSA=Wilderness Study Area; WSR=Wild and Scenic River

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## Appendix L. Management Zones Frameworks for Recreation and Visitor Services

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### 1. INTRODUCTION

The Browns Canyon National Monument (BCNM) is a national outdoor adventure destination and supports a thriving tourist economy for Chaffee County, Colorado and local communities. BCNM provides unique national and local opportunities for outdoor activities including whitewater rafting, kayaking, stand-up paddle boarding, angling, rock climbing, camping, wilderness access, backcountry hiking, hunting, and experiencing solitude and naturalness in rugged, scenic settings. Varied river-based, wilderness, primitive, backcountry, and high elevation opportunities provide for diverse visitor experiences and outcomes for individuals and groups.

BCNM has sustained rapid upward growth in visitor use and has a growing footprint of recreational infrastructure and human presence. This growth presently affects, elevates risk to, and in select locations threatens monument resources, objects, and values (ROVs), including the wilderness characteristics of the monument. Therefore, intensified special recreation management and heightened management attention for the BCNM is warranted to provide high quality recreation outcomes; sustain recreation setting characteristics; and protect monument ROVs, quality of uses, and wilderness characteristics.

The Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) follow different agency approaches to achieve recreation outcomes. The BLM follows outcome-focused management that focuses on the positive outcomes gained from engaging in recreational experiences while protecting resources as described in BLM Handbook 8320. The BLM managers accomplish this approach by planning for *recreation management zones* and managing the physical, social, and operational settings and the activities that occur within them, thereby enabling visitors to obtain desired experiences and beneficial outcomes (BLM 2014).

USFS follows recreation opportunity spectrum management to define and categorize the social, managerial, and physical attributes of a place that, when combined, provides a distinct set of recreation opportunities and settings (Forest Service Handbook [FSH] 1909.12). USFS managers designate (allocate) geographic *management areas* as a land area that has the same set of plan components, for example specific recreation activities and outcomes (FSH 1909.12).

In this jointly prepared Resource Management Plan (RMP)/ Environmental Impact Statement (EIS), BLM and USFS have applied Management Zones (MZs) to Alternatives B and C as a conceptual framework for managing recreation plan components. Recreation plan components only apply to the specific BLM and USFS lands within BCNM shown on maps 12 and 13 in Appendix D. A range of alternatives is summarized in Figure L-1, and described in greater detail on the following pages. Management of all other resources are described in chapter 2, tables 2.3-1 through 2.3-12.

**Figure L-1. Recreation Settings, Infrastructure, Variety of Uses, and Level of Access**

	Primitive	Backcountry	Middle Country	Front Country
<b>Arkansas River Shore and Bench/Passage</b>	Alternative B			
		Alternative C		
<b>Monument – River East</b>	Alternative B			
	Alternative C			
<b>Monument – River West</b>	Alternative B			
		Alternative C		
<b>Aspen Ridge</b>	Alternative B			
		Alternative C		
<b>Railroad Gulch</b>	Alternative B			
			Alternative C	
<b>Turret Road</b>			Alternative B	
			Alternative C	
<b>Ruby Mountain – Hecla Junction Access</b>				Alternative B
				Alternative C

The following sections outline the targeted recreational activities, experiences, and outcomes that the BLM and USFS intend for specific MZs within the BCNM.

## 2. MANAGEMENT ZONE FRAMEWORKS

### 2.1. Arkansas River Shore and Passage MZ (Alternative B) / Arkansas River Shore and Bench MZ (Alternative C)

#### 2.1.1. Outcome-Focused Recreation Management

Size and Location: See section 2.3.9 of the RMP/EIS (Record #305 Management Zones) and maps 12 and 13 in Appendix D.

*Alternative B:* Includes the Arkansas Headwaters Recreation Area (AHRA) Cooperative Management Lands (CML) along the river corridor, excluding areas within Recreation and Public Purpose (R&PP) leases, and an upland area of Ruby Mountain.

*Alternative C:* Includes the CML, excluding areas within R&PP leases, and an extensive upland area that encompasses the River Access, River Bench, and Turret trails.

Objective Statement: Participants in surveys/assessments report an average 4.0 realization (4.0 on a probability scale where: 1 = not at all realized to 5 = totally realized) of the targeted experiences and outcomes listed below, five years after the beginning of implementation.

This MZ largely addresses recreation and monument ROV protection of the river, bench interface of river, and upland use. It identifies travel routes that receive high levels of visitor use as throughways to allow access to other MZs and trail systems. Alternative C also includes the most heavily used river access trails through the Browns Canyon Wilderness Study Area (WSA). See the AHRA Management Plan Segment 2 for river management specifics. Refer to section 2.3 of the RMP/EIS for details of the management guidance for all other resources and resource uses.

Activities: Whitewater rafting, kayaking, angling (shore and raft), stand-up paddleboarding, day hiking, camping, picnicking, primitive camping, and horseback riding.

Experiences:

- Developing skills and abilities
- Enjoying the challenge or sport
- Enjoying the area's wildlife, scenery, and views
- Enjoying the closeness of family and friends

Outcomes:

- Personal:
  - Closer relationship with the natural world
  - Improved outdoor recreation skills
  - Living a more outdoor-oriented lifestyle
  - Improved balance of work and play in my life
  - Restored my mind from stress/tension/anxiety
  - Outdoor adventure, fitness, and enjoyment



- Community/Social:
  - Heightened sense of satisfaction with our community
  - Lifestyle improvement or maintenance
  - Enlarged sense of community dependency on public lands
  - Greater community involvement in recreation and other land use decisions
- Economic:
  - Maintain local tourism revenue
  - Increased desirability as a place to live or retire to
- Environmental:
  - Greater community and individual ownership & stewardship of recreation and natural resources

### **2.1.2. Recreation Setting Characteristics (by Alternative)**

#### Alternative B: Primitive to Front Country

- *Physical*: Primitive. Develop no new trailheads, parking, or other facilities; close social trails outside of Ruby Mountain; and minimize maintenance of trails to reduce impacts to soils and vegetation. Do not allow for mechanized routes on converted railroad grade. Do not allow a crossing over the Arkansas River.
- *Social*: Backcountry to Front Country. Moderate evidence of use; 30 or more encounters per day with moderate size groups (15 to 25 people), with higher seasonal encounters on the river, CR194, and River Access, River Bench, and Turret trails.
- *Operational*: Primitive to Backcountry. Allow non-motorized and non-mechanized use only and designate and administer campsites to reduce user conflicts and impacts to resources.

#### Alternative C: Primitive to Front Country

- *Physical*: Primitive to Backcountry. Develop no new trailheads, parking, or other facilities; and minimize maintenance of trails to reduce impacts to soils and vegetation. Allow for development of social or new trails. Allow for a bridge over the Arkansas River outside of the WSA. Allow for a potential mechanized route on a converted railroad grade.
- *Social*: Middle Country to Front Country. Moderate evidence of use; 30 or more encounters per day with moderate size groups (15 to 25 people), with higher seasonal encounters on the river and River Access, River Bench, and Turret trails.
- *Operational*: Primitive to Front Country. Allow non-motorized and non-mechanized use only (consider mechanized if railroad were converted to trail); and designate and administer campsites to reduce user conflicts and impacts to resources.

## 2.2. Monument - River East MZ

### 2.2.1. BLM Outcome-Focused Recreation Management (Alternatives B and C)

Size and Location: See section 2.3.9 of the RMP/EIS and maps 12 and 13 in Appendix D.

*Alternative B:* Defined as all lands east and west of the Arkansas River not already defined in a different MZ.

*Alternative C:* Defined as all lands east of the Arkansas River not already defined in a different MZ.

Objective Statement: Participants in surveys/assessments report an average 4.0 realization (4.0 on a probability scale where: 1 = not at all realized to 5 = totally realized) of the targeted experiences and outcomes listed below, five years after the beginning of implementation.

Activities: Trail hiking, off-trail hiking, horseback riding, and hunting while commensurately managing for the protection of wildlife habitat and other natural resources, as well as ranching values.

Experiences:

- Bonding with family and friends
- Enjoying the area's wildlife, scenery, views, and aesthetics
- Savoring the total sensory experiences of a natural landscape and being in awe of the natural environment

Outcomes:

- Personal/Individual:
  - Closer relationship with the natural world
  - Restored my mind from stress/tension/anxiety
  - Outdoor adventure, fitness, and enjoyment
- Economic:
  - Positive contributions to local-regional economy
  - Increased desirability as a place to live
  - Enhanced ability for visitors to experience the area with the desired level of facilities
- Environmental:
  - Greater awareness and stewardship of recreation and natural resources

### 2.2.2. Recreation Setting Characteristics (by Alternative)

Alternative B: Primitive

- *Physical:* Primitive. Develop no new trailheads, parking, or other facilities; minimize maintenance of trails to protect resources.
- *Social:* Primitive. Little to no evidence of use; fewer than 3 encounters per day; group size of 1 to 3 people.

- *Operational:* Primitive. Allow no motorized or new mechanized. Mechanized use on existing FST 1435 only; provide no information or maps onsite; Limited staff presence.

Alternative C: Primitive to Backcountry

- *Physical:* Primitive to Backcountry. Potential for additional trails and minimal signage, including a mechanized Buena Vista to Salida connector route in accordance with USFS policy and the Colorado Roadless Rule.
- *Social:* Backcountry. Little evidence of use, 3 to 6 encounters per day and group size of 7 to 15 people.
- *Operational:* Primitive to Backcountry. Allow for additional trails, minimal signage. Allow for new mechanized Buena Vista to Salida connector route.

## **2.3. Monument - River West MZ**

### **2.3.1. Outcome-Focused Recreation Management (Alternatives B and C)**

Size and Location: See section 2.3.9 of the RMP/EIS and maps 12 and 13 in Appendix D.

*Alternative B:* Lands west of the Arkansas River near Hecla Junction, excluding the CML and the CR 194 corridor.

*Alternative C:* All lands west of the Arkansas River excluding the CML.

Objective Statement: Participants in surveys/assessments report an average 4.0 realization (4.0 on a probability scale where: 1 = not at all realized to 5 = totally realized) of the targeted experiences and outcomes listed below, five years after the beginning of implementation.

Activities: Hiking, hunting, scenic viewing, fishing, mountain biking, horseback riding, hunting, ranching, and camping.

Experiences:

- Learning more about this specific area's history and geology
- Enjoying the area's wildlife, scenery, views, and aesthetics
- Savoring the total sensory experiences of a natural landscape and being in awe of the natural environment

Outcomes:

- Personal:
  - Closer relationship with the natural world
  - Restored my mind from stress/tension/anxiety
  - Outdoor adventure, fitness, and enjoyment
- Economic:
  - Positive contributions to local/regional economy
  - Enhanced ability for visitors to experience the area with the desired level of facilities

- Environmental:
  - Greater awareness and stewardship of recreation and natural resources

### **2.3.2. Recreation Setting Characteristics (by Alternative)**

#### Alternative B: Backcountry

- *Physical*: Backcountry. Seasonal closures. Limit trail development to within 0.50 mile of developed recreation sites to minimize disturbance to mule deer winter concentration habitat, golden eagle perch sites, elk year round range, cultural resources, and Tribal values. Do not allow new trails, campgrounds, or trailheads.
- *Social*: Backcountry. Little evidence of use, 3 to 6 encounters per day and group size of 7 to 15. Manage for quiet uses.
- *Operational*: Backcountry. Provide off-site information and maps, post rules and use ethics onsite with law enforcement seldom present. Closed to new motorized or mechanized routes.

#### Alternative C: Backcountry to Middle Country

- *Physical*: Backcountry to Middle Country. Maintain the existing remoteness and naturalness, while providing developed facilities such as trails, campgrounds, and trailheads.
- *Social*: Middle Country. Moderate evidence of use; 15 to 30 encounters per day with small to moderate size groups.
- *Operational*: Middle Country. Limit motorized and mechanized vehicles to designated routes; restrict some activities with seasonal closures. Provide on-site information and maps, post rules and use ethics onsite with law enforcement occasionally present.

## **2.4. Aspen Ridge MZ**

### **2.4.1. USFS Desired Future Conditions (Alternatives B and C)**

Size and Location: See section 2.3.9 of the RMP/EIS and maps 12 and 13 in Appendix D. The BCNM boundary lies 100 feet west of NFSR 185.

*Alternative B*: Generally defined as the land 100 feet west of NFSR 185 until the cliff face.

*Alternative C*: Generally defined as the land 100 feet west of NFSR 185 until the cliff face and including the upper portion of the monument, an area generally centered on NFST 1435.

See section 2.4 of the RMP/EIS (Recreation Management of BCNM Gateway Lands) for facility improvements along Aspen Ridge Road outside of the monument boundary.

Objective Statement: Participants in surveys/assessments report an average 4.0 realization (4.0 on a probability scale where: 1 = not at all realized to 5 = totally realized) of the targeted experiences and outcomes listed below, five years after the beginning of implementation.

Activities: Provide for hunting, off-trail hiking, and horseback riding in a primitive setting while commensurately managing for the protection of wildlife habitat and other natural resources, as well as ranching values.

Experiences:

- Enjoying the area's wildlife, scenery, views, and aesthetics
- Savoring the total sensory experiences of a natural landscape and being in awe of the natural environment
- Learning more about this specific area's history and geology

Outcomes:

- Personal:
  - Closer relationship with the natural world
  - Restored my mind from stress/tension/anxiety
  - Outdoor adventure, fitness, and enjoyment
- Economic:
  - Positive contributions to local/regional economy
- Environmental:
  - Greater awareness and stewardship of recreation and natural resources

### **2.4.2. Recreation Setting Characteristics (by Alternative)**

Alternative B: Primitive to Backcountry

- *Physical:* Primitive. Maintain the existing remoteness and naturalness 300 feet west of Aspen Ridge Road; do not allow for limited developed facilities such as trails and trailheads.
- *Social:* Backcountry. Little evidence of use, 3 to 6 encounters per day and group size of 7 to 15 people with higher seasonal encounters. Manage for quiet uses.
- *Operational:* Backcountry. Limit motorized and mechanized vehicles to designated routes; restrict some activities with seasonal closures. Provide on-site information and maps, post rules and use ethics onsite with law enforcement occasionally present.

Alternative C: Backcountry to Middle Country

- *Physical:* Backcountry to Middle Country. Maintain the existing remoteness and naturalness 0.25 mile west of Aspen Ridge Road, while allowing for additional camping, toilets, and developed facilities such as trails, trailheads, and overlooks along the Aspen Ridge Road. Allow for ADA-compliant trails to scenic overlooks and a mechanized Buena Vista to Salida connector route, in accordance with USFS policy and the Colorado Roadless Rule.
- *Social:* Middle Country. Moderate evidence of use; 15 to 30 encounters per day with small to moderate size groups with higher seasonal encounters.
- *Operational:* Backcountry to Middle Country. Limit motorized and mechanized vehicles to designated routes; restrict some activities with seasonal closures. Provide on-site information and maps, post rules and use ethics onsite with law enforcement occasionally present.



### **2.4.3. USFS Desired Future Conditions (Common to All) for Gateway Lands**

See section 2.4 of the RMP/EIS (Recreation Management of BCNM Gateway Lands) for facility improvements in the Aspen Ridge Gateway outside of the monument boundary.

## **2.5. Railroad Gulch MZ**

### **2.5.1. BLM Outcome-Focused Recreation Management (Alternatives B and C)**

Size and Location: See section 2.3.9 of the RMP/EIS and maps 12 and 13 in Appendix D.

*Alternative B:* Identified as the eastern most lands within the upper reaches of the Railroad Gulch Watershed.

*Alternative C:* Identified as the lands within the Railroad Gulch Watershed.

Objective Statement: Participants in surveys/assessments report an average 4.0 realization (4.0 on a probability scale where: 1 = not at all realized to 5 = totally realized) of the targeted experiences and outcomes listed below, five years after the beginning of implementation.

Activities: Hiking and learning.

Experiences:

- Enjoying the area's wildlife, scenery, views, and aesthetics
- Savoring the total sensory experiences of a natural landscape and being in awe of the natural environment
- Learning more about this specific area's history and geology

Outcomes:

- Personal:
  - Closer relationship with the natural world
  - Restored my mind from stress/tension/anxiety
  - Outdoor adventure, fitness, and enjoyment
- Economic:
  - Positive contributions to local/regional economy
- Environmental:
  - Greater awareness and stewardship of recreation and natural resources

### **2.5.2. Recreation Setting Characteristics (by Alternative)**

Alternative B: Primitive

- *Physical:* Primitive. Maintain the existing remoteness and naturalness.
- *Social:* Primitive. Little to no evidence of use; fewer than 3 encounters per day; group size of 1 to 3 people.

- *Operational:* Primitive. Limit motorized and mechanized vehicles to designated routes; restrict some activities with seasonal closures. Post rules and use ethics onsite with law enforcement occasionally present.

Alternative C: Primitive to Backcountry

- *Physical:* Backcountry. Maintain the existing remoteness and naturalness and manage for the protection of winter wildlife, while providing developed facilities such as trails and trailheads. Allow for non-motorized and non-mechanized off-trail recreation activities.
- *Social:* Backcountry. Little evidence of use, 3 to 6 encounters per day and group size of 7 to 15 people with higher seasonal encounters.
- *Operational:* Primitive to Backcountry. Limit motorized and mechanized vehicles to designated routes; restrict some activities with seasonal closures. Provide on-site information and maps, post rules, and use ethics onsite with law enforcement occasionally present.

### **2.5.3. USFS Desired Future Conditions (Common to All) for Gateway Lands**

See section 2.4 of the RMP/EIS (Recreation Management of BCNM Gateway Lands) for facility improvements in the Railroad Gulch-Austin Trail Gateway outside of the monument boundary.

## **2.6. Turret Road MZ**

Size and Location: See section 2.3.9 of the RMP/EIS and maps 12 and 13 in Appendix D.

*Alternative B:* Identified as the lands along NFSR 184 bounded by the Aspen Ridge Roadless Area (approximately 100-foot buffer) except for the last 1/3 mile.

*Alternative C:* Identified as the lands along NFSR 184 bounded by the Aspen Ridge Roadless Area (approximately 100-foot buffer).

This MZ identifies a travel route that receives high levels of visitor use as passage or throughway to allow access to other MZs and trail systems.

Objective Statement: Participants in surveys/assessments report an average 4.0 realization (4.0 on a probability scale where: 1 = not at all realized to 5 = totally realized) of the targeted experiences and outcomes listed below, five years after the beginning of implementation.

Activities: OHV and high clearance vehicle touring, hunting, birdwatching, sightseeing.

Experiences:

- Enjoying the area's terrain, wildlife, scenery, views, and aesthetics
- Experiencing adventure, natural landscape, and being in the natural environment
- Learning more about this specific area's history and geology

Outcomes:

- Personal:
  - Closer relationship with the natural world
  - Restored my mind from stress/tension/anxiety

- Testing OHV capability
  - Experiencing OHV recreation in a low use area
- Economic:
  - Positive contributions to local/regional economy
- Environmental:
  - Greater awareness and stewardship of recreation and natural resources

### **2.6.1. Recreation Setting Characteristics (by Alternative)**

#### **Alternative B and C: Backcountry**

- *Physical:* Backcountry. Maintain the existing remoteness and naturalness and manage for the protection of winter wildlife. Allow new trailhead development and basic facilities, in accordance with USFS policy and the Colorado Roadless Rule. Allow for non-motorized and non-mechanized off-trail recreation activities.
- *Social:* Backcountry. Minimal evidence of use; fewer than 3-6 encounters per day; low group (4-6 people) with higher seasonal encounters.
- *Operational:* Backcountry. Limit motorized and mechanized vehicles to designated routes; restrict some activities with seasonal closures. Post rules and use ethics onsite with law enforcement occasionally present.

### **2.6.2. USFS Desired Future Conditions (Common to All) for Gateway Lands**

See section 2.4 of the main RMP/EIS (Recreation Management of BCNM Gateway Lands) for facility improvements in the Turret Road Gateway outside of the monument boundary.

## **2.7. Ruby Mountain- Hecla Junction Access MZ**

### **2.7.1. Outcome-Focused Recreation Management (Alternatives B and C)**

Size: See section 2.3.9 of the RMP/EIS and maps 12 and 13 in Appendix D.

*Alternative B:* Identified as the AHRA R&PP Leases, additionally includes lands between the Ruby Mountain R&PP lease and west of BLM Road 300.

*Alternative C:* Identified as the AHRA R&PP Leases

Objective Statement: Manage for the activities, qualities, and conditions described below.

Activities: Camping, picnicking, boating, and fishing on the Arkansas River, learning about the area.

Experiences: Boating access, angling access, camping, and watchable wildlife.

Outcomes:

- Personal:
  - Closer relationship with family and friends

- Economic:
  - Positive contributions to local/regional economy
- Environmental:
  - Greater awareness and stewardship of recreation and natural resources

### **2.7.2. Recreation Setting Characteristics (Alternatives B and C)**

- *Physical*: Front Country. Maintain the remoteness and naturalness as much as feasible in a front country setting; develop new trailhead, parking, signs, and infrastructure for interpretation purposes. Character of the natural landscape partially modified but developments do not overpower natural landscape (e.g., rustic facilities, structures, utilities). Allow for a bridge over the Arkansas River outside of the WSA.
- *Social*: Front Country. Evidence of use; 30 or more encounters per day and group size up to 25 people. Small areas of alteration prevalent; sounds of people and vehicles regularly heard. High social interaction, low opportunity for solitude during high use seasons.
- *Operational*: Front Country. Motorized and mechanized use is predominant and allowed on designated routes. Allow new roads and trails; provide information materials that describe the recreation areas and activities, have staff periodically present; Rules, regulations, and ethics clearly posted; use restrictions, limitations, and/or closures.





Bureau of Land Management

Royal Gorge Field Office

3028 East Main Street

Cañon City, CO 81212

(719) 269-8500

<https://go.usa.gov/xn2eC>